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ABSTRACT

The selected bibliography of research on visually handicapped children contains approximately 100 abstracts and associated indexing information drawn from the computer file of abstracts representing the Council for Exceptional Children Information Center's complete holdings as of November, 1973. Abstracts are chosen using the criteria of availability of document to user, current applicability, information value, author reputation, and classical content. Preliminary information explains how to read the abstract (a sample abstract is included for identification of abstract parts), how to use the author and subject indexes, how to purchase documents through the Educational Resources Information Center Document Reproduction Service (an order blank is provided), and how to order "Exceptional Child Education Abstracts" (an order blank is provided), in which the abstracts are originally published. Also, front information includes a list of terms searched to compile the bibliography and a list of journals from which articles are abstracted for the bibliography. Publication dates of documents abstracted range from 1963 through 1972. (MC)

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# VISUALLY HANDICAPPED-RESEARCH

A Selective Bibliography

November, 1973

CEC Information Center on Exceptional Children  
An ERIC Clearinghouse  
The Council for Exceptional Children  
1920 Association Drive  
Reston, Virginia 22091

Exceptional Child Bibliography Series No. 620

The work presented or reported herein was performed pursuant to a grant from the Bureau of Education for the Handicapped, US Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the US Office of Education and no official endorsement by the US Office of Education should be inferred.

## The CEC Information Center on Exceptional Children

With a grant from the US Office of Education, the CEC Information Center was established at The Council for Exceptional Children to serve as a comprehensive source of information on research, instructional materials, programs, administration, teacher education, methods, curriculum, etc. for the field of special education. The Center functions as the Clearinghouse on Exceptional Children in the Educational Resources Information Centers (ERIC) program and also as a member center in the Special Education IMC/RMC Network. In addition, the CEC Center's program includes a commitment to a concentrated effort towards the development of products which will interpret research results into educational methods and practices.

### How to Use This Bibliography

The *Exceptional Child Bibliography Series* was initiated by the CEC Information Center to answer the need for rapid responses to specific requests for information. The volume of information requests received by the Center is analyzed and used as a guide in preparing special topic bibliographies in the field of exceptional child education. Abstracts contained in the bibliographies are drawn from the computer file of abstracts which represents the CEC Information Center's complete holdings as of the date indicated on each bibliography.

Selective editing by Information Specialists is performed on each bibliography. From the total number of abstracts drawn from the file on a particular topic, selection is made of only those judged to best meet the following criteria: availability of the document to the user, currency, information value, author's reputation, and classical content. The number of abstracts selected to appear in a bibliography may vary from one to 100, depending on the amount of suitable information available. Updating of bibliographies as new material becomes available is accomplished when the volume of new material reaches 25 percent of presently available material on a given topic.

### How to Read the Abstract

Each abstract contains three sections—bibliographic data, descriptors, and a summary of the document. The bibliographic section provides the document's identifying number (ED and/or EC), publication date, author, title, source, and availability. The descriptors indicate the subjects with which a document deals. The summary provides a comprehensive overview of the document's contents and in some cases document availability is announced here.

### How to Use the Indexes

Some bibliographies in *Exceptional Children Bibliography Series* contain author and/or subject indexes. In these bibliographies, readers seeking work on a specific aspect of the general topic may consult the subject index to be referred to specific abstract numbers. Abstracts dealing with several topics may be identified by finding the same abstract number under two or more subjects in the subject index.

### How to Purchase Documents

Documents with an ED number and EDRS availability indicated may be purchased from the ERIC Document Reproduction Service (EDRS). For your convenience an order form is provided on the back cover of this bibliography.

Abstracts appearing in the bibliographies have also been published in *Exceptional Child Education Abstracts*, the quarterly abstract publication of the Council for Exceptional Children. Approximately 750 abstracts covering the broad range of exceptionality appear in each issue. (Subscription order form below.)

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# Sample Abstract Entry

Clearinghouse accession number → EC 01 0769

Publication date → Publ. Date Jun 68

Author(s) → Hensley, Gene, Ed.; Buck, Dorothy P., Ed.

Title → Cooperative Agreements between Special Education and Rehabilitation Services in the West. Selected Papers from a Conference on Cooperative Agreements (Las Vegas, Nevada, February, 1968).

EDRS mf, hc indicates document is available in microfiche and hard copy.\* → EDRS mf, hc

Abstract number used in Indexes → ABSTRACT 769

ERIC accession number. Use this number when ordering microfiche and hard copy → ED 025 864

Number of pages. Use this figure to compute cost of hard copy. → 44p.

Institution(s) → Western Interstate Commission For Higher Education, Boulder, Colorado; United Cerebral Palsy Research And Education Foundation, Inc., New York; Rehabilitation Services Administration (DHEW), Washington, D. C.

Contract or grant number → VRA-546T66

Descriptors—subject terms which characterize content → Descriptors: exceptional child education; cooperative programs; vocational rehabilitation; vocational education; administration; mentally handicapped; state agencies; cooperative education; educational coordination; cooperative programs; state federal aid; administrative problems; communication problems; equalization aid; work study programs; handicapped; cost effectiveness

Summary → Five papers discuss cooperative work-study agreements between schools and vocational rehabilitation services in the western states. Areas discussed include the advantages of cooperative agreements; the forms and disadvantages of third party agreements, basic concepts of the programs, and an outline form to use when applying for matching funds; the relationship of special education, rehabilitation and cooperative plans, programs, and agreements; and California's past and present work study programs for the mentally retarded. Also reviewed are research demonstrating the economic feasibility of vocational training for the educable mentally retarded in the public schools and communication problems in work study programs. The conference summary considers the purposes, goals, essence of, and necessity for cooperative agreements. (MK)

Abstractor's initials → (MK)

\*NOTE: EDRS mf indicates microfiche reproduction only.

## INDEXING TERMS SEARCHED

Indexing terms used to retrieve information on *Visually Handicapped--Research* from the Center's computer file of abstracts are listed alphabetically below:

*Blind*  
*Echolocation*  
*Exceptional Child Research*  
*Eyes*  
*Large Type Materials*  
*Mobility Aids*  
*Ophthalmology*  
*Partially Sighted*  
*Sensory Aids*  
*Tactile Adaptation*  
*Travel Training*  
*Vision*  
*Visual Handicaps*  
*Visually Handicapped*  
*Visually Handicapped Mobility*  
*Visually Handicapped Orientation*

## JOURNALS USED

Abstracts of articles from the following periodicals appear in this bibliography:

*Education of the Visually Handicapped*, 1604 Spruce Street, Philadelphia, Pennsylvania 19103  
*Exceptional Children*, Council for Exceptional Children, 1920 Association Drive, Reston, Virginia 22091  
*Journal of Educational Research*, 1126 16th Street, N.W., Washington, D.C. 20036  
*Journal of Special Education*, 3515 Woodhaven Road, Philadelphia, Pennsylvania 19154  
*New Outlook for the Blind*, 15 West 16th Street, New York, New York 10011

The abstracts in this bibliography were selected from *Exceptional Child Education Abstracts*, Volume I-V, No. 1.

## ABSTRACTS

### ABSTRACT 10059

EC 01 0059 ED 012 119  
 Publ. Date Aug 66 72p.  
 Dauterman, William L.; Suinn, Richard M.  
**Stanford-Ohwaki-Kohs Tactile Block Design Intelligence Test for the Blind, Part One of Final Report.**  
 Vocational Rehab. Admin., Washington, D. C.  
 Stanford Univ. Sch. of Medicine, Palo Alto, California  
 EDRS mf,hc

Descriptors: exceptional child research; tests; visually handicapped; intelligence tests; blind; test construction; test reliability; adolescents; adults; performance tests; Stanford Ohwaki Kohs Tactile Block Design Intelligence Test; Stanford Kohs Block Design Test

Six hundred and thirty blind subjects 14 years of age and older were used in refining and standardizing the nonverbal performance Ohwaki-Kohs Block Design Test for use in the United States. Results indicated statistically significant correlations at the .001 level between the Stanford-Kohs and the Wechsler Adult Intelligence Scale, and between the Stanford-Kohs and Ohwaki-Kohs tests. On a re-test of 50 subjects, a test-retest reliability coefficient of .86 was reported. Tables present biographical data correlations and test intercorrelations. An appendix is included. The construction of test materials is explained. Test manuals will appear as Part 2 and Part 3 of this report. A bibliography includes 84 items. (KH)

### ABSTRACT 10196

EC 01 0196 ED 018 889  
 Publ. Date Aug 66 62p.  
 Couchell, Peter, Jr. and Others  
**The Value of Mobility Instruction as a Technique to Motivate Blind Individuals.**  
 Mecklenburg Assn. for Blind, Charlotte, N. C.  
 EDRS mf,hc

Descriptors: exceptional child research; visually handicapped; motivation; adults; young adults; older adults; travel training; instructional programs; demonstration projects; visually handicapped mobility

A 3-year demonstration project was designed to provide the blind with mobility instruction, to show agencies and communities the need for such instruction, and to obtain information about motivation and mobility. Of the 73 blind persons in Mecklenburg County (North Carolina) who inquired by individual application or were referred by other agencies, 14 males and 17 females, aged 14 to 70 years, participated in the mobility training. Following interviews with the caseworker and the peripatologist, the subjects were examined by an ophthalmologist to determine presence of resi-

dual vision, a physician to determine physical capacity, and an audiologist to determine ability to hear and to discriminate among sounds. After an interpretive interview explaining the course of instruction, the subjects began training. The subjects received an average of 22 individual hour training lessons. At termination of the lessons, 18 subjects could travel independently in residential areas (seven of these could travel in business areas also). Success in mobility apparently enhanced motivation to improve in other areas of social functioning. Most clients felt that daily lessons were more advantageous than longer lessons on alternative days. About 75 percent of the clients were satisfied with the long evaluation process which preceded the beginning of instruction. Over half of the clients who inquired did not take mobility training for various reasons, including rejection due to medical conditions, lack of interest, family objections, resignation of instructor, or emotional state. (KH)

### ABSTRACT 10260

EC 01 0260 ED 018 054  
 Publ. Date May 67 16p.  
 Foulke, Emerson; Warm, Joel  
**The Development of an Expanded Reading Code for the Blind. Interim Technical Report.**  
 Louisville Univ., Kentucky  
 OEC-6-10-035  
 EDRS mf,hc

Descriptors: exceptional child research; visually handicapped; braille; tactual perception; sensory experience; sensory training; performance factors; redundancy; blind; reading

Groups of 24 blind adults (all skilled Braille readers) and 24 sighted college students were compared on a tactual identification of form task in which raised dots were used. The two information parameters, complexity and redundancy of the dots, were assessed using punctiform metric figures resembling histograms and similar in size and spacing to standard braille dots. The task was to decide which, if either, of the two comparison stimuli was identical to the standard stimulus. A 4 x 2 x 2 factorial design was employed. Statistically significant results were found between the visual status groups, between levels of complexity, and between random and redundant figures (p is less than .01 in each case). Also, the interactions between groups and complexity, groups and type of figures, and complexity and type of figures were found to be statistically reliable (p is less than .01) in each case. Findings indicated that efficiency of performance tends to decline with increments in stimulus complexity. The overall trend toward greater efficiency of performance with random than with redundant figures was found to accord with

previous findings regarding the variables of the information parameters using visual stimuli. The conclusion was that the information handling approach taps a single process of form perception in man. The study also suggests revision of the present braille code to expand its 2 x 3 braille matrix to a 4 x 4 size for increased braille reading rate and accommodation of technical symbols in various sciences. Diagrams showing samples of cell matrices of different complexity and metric figures using braille dots and a graph showing performance differences are included. A bibliography lists 18 items. (KH)

### ABSTRACT 10564

EC 01 0564 ED 021 373  
 Publ. Date 65 151p.  
 Crowley, Francis J.; and Others  
**A Comparison of the Listening Ability of Blind Students and the Listening Ability of Sighted Students in the Intermediate Grades.**  
 Fordham University, Bronx, New York  
 Office of Education (DHEW), Washington, D. C., Division of Handicapped Children and Youth  
 EDRS mf,hc  
 OEG-32-42-0440-1005

Descriptors: exceptional child research; visually handicapped; communication (thought transfer); blind; intermediate grades; listening skills; listening comprehension; intelligence level; speech comprehension; ability; average students; speech compression; communication theory; listening; Sequential Tests of Educational Progress (Listening)

To determine whether differences exist in their listening ability, 152 blind braille-reading and 152 sighted children in the intermediate grades were studied. Subjects were classified into three ability levels on the basis of their scores on individual IQ tests. The Listening Subtest of the Sequential Tests of Educational Progress was administered at rates of 175 and 225 words per minute with the four types of listening material: expository, narrative, direction, and aesthetic. The measured listening ability of the sighted subjects was generally superior to that of the blind (p equals .05), with the sighted superior in listening to expository and narrative material. Intelligence was positively related to measured listening ability. Order of administration or type of school (special school or integrated class) did not constitute a significant variable. Scores achieved at the regular rate were significantly higher than at the speeded rate (p equals .01). Neither speededness nor intelligence acted selectively in influencing the score of the blind and the sighted. Recommendations are made for education and research. A bibliography cites 83 items; 32 tables present data. (KH)



**ABSTRACT 10821**

EC 01 0821 ED 025 092  
 Publ. Date Sep 68 18p.  
 Grumpelt, Howard R.; Rubin, Ellen  
**Speed Listening Skill by the Blind as a Function of Training. Final Report.**  
 Washington College, Chestertown, Maryland  
 Office of Education (DHEW), Washington, D. C.; Bureau of Research  
 EDRS mf.hc  
 OEG-3-8-080024-0021(010)  
 BR-8-C-024

Descriptors: exceptional child research; visually handicapped; teaching methods; audiovisual instruction; tape recordings; blind; secondary school students; speech compression; audiovisual aids; listening comprehension; listening; listening skills; skills; auditory training; aural learning

In order to determine whether speed listening practice could improve comprehension of pitch-altered rapid speech, 66 high school students blind since at least age 6 were divided into experimental (E) and control (C) groups, matched on the basis of age (range 15 to 19 years), IQ (range 85 to 130), and pretest comprehension of material presented at normal rates. Using the pitch altering method of speeding up tape recorded material, training was given the E-group at 275 and 300 words per minute (wpm) while the C-group received similar training at the standard 175 wpm level. Subjects were administered two training sessions per day of three trials of taped material (about 875 words each) followed by 10 five-foil multiple choice questions after each trial with a maximum number of 14 sessions. The E-group did significantly better than the C-group on the comprehension posttest administered at 300 wpm ( $p$  less than .001). While a clear cut training effect was obtained, the degree of improvement due to this training (9.4%) was not large. (Author)

**ABSTRACT 10853**

EC 01 0853 ED 014 193  
 Publ. Date Mar 67 85p.  
 Mallinson, George G.  
**Programmed Learning Materials for the Blind.**  
 Western Michigan University, Kalamazoo  
 EDRS mf.hc  
 OEG-7-0580-191

Descriptors: exceptional child research; programed instruction; visually handicapped; sciences; braille; blind; science education; adolescents; instructional materials; junior high school students; learning processes; programed materials; science instruction; science materials; science programs; stimulus devices

Designed as a preliminary investigation to determine the feasibility of using programed learning materials with blind students, this study developed four types of stimulus-response modes for programed instruction: audio stimulus-audio response, audio stimulus-braille response, braille stimulus-audio response, and braille stimulus-braille response. A pilot testing program revealed the braille stimulus-braille response mode was most

appropriate. Tests determined that the most efficient braille stimulus-braille response format was a booklet in which the braille frame appeared on one page and the correct response on the next. The student responded with a braille writer or braille slate and stylus. Commercially developed programs for junior high school science were modified for use with blind students. Two 50-frame programs reproduced in braille were tested with 57 blind junior high school students. Results showed they could handle these programed materials in a reasonable amount of time and with a high degree of accuracy. Instructions were followed with minimal difficulty. Performance improved with second book. In modifying the program for use with the blind, 32 symbols were developed for the most frequently used science terms in order to reduce the bulk of braille materials. To determine whether blind students could discriminate among the symbols and between the symbols and braille, 43 blind students (grades 6 to 10) were given tests in the form of checkers and checkerboards which contained the various special science symbols. Student scores improved as IQ rose, junior high students scored better than sixth graders, high school students reacted negatively and did not do well. On second trials students required less time and scored fewer errors. The appendixes contain sample science programs on physical and chemical changes, symbols and formulas, and the plastids. (CTM)

**ABSTRACT 10855**

EC 01 0855 ED 015 612  
 Publ. Date 30 Jun 67 7p.  
 Tillman, M. H.  
**Differential Effects of Sex, Age, and Ability on WISC Profiles of Blind Children.**  
 Georgia University, Athens  
 EDRS mf.hc

Descriptors: exceptional child research; visually handicapped; tests; cognitive processes; blind; intelligence differences; children; educational research; intelligence factors; intelligence tests; Wechsler Intelligence Scale for Children; WISC

Using a cross-sectional sampling plan, the stability of profiles on the Wechsler Intelligence Scale for Children and of mean scale scores on subtests (information, arithmetic, similarities, vocabulary, and digit span) was examined as a function of sex, age, and ability level. From 167 WISC forms (of blind boys and girls aged 8 to 12) 80 forms were used for sex and age analysis. A second group of 39 forms drawn from the same pool were used for the ability analysis. Sex and age effects were analyzed in a 3-factor design with repeated measures on subtests, and ability effects were analyzed in a 2-factor design with repeated measures on subtests. Results showed main effects of sex and age were not significant. The main effect of subtests was significant (.001 level). These interactions were not significant; sex and age, sex and subtests, age

and subtests, and sex, age, and subtests. This result attests to the accuracy of grouping procedures. The second analysis showed that main effects and interaction effects were significant; ability groups (.001 level), subtests (.001 level), was planned since groups were formed by low, average, and high IQ. Sex and age differences did not produce profile differences while grouping by low, average, and high IQ did yield different profiles. A list of five references is included. (Author)

**ABSTRACT 11073**

EC 01 1073 ED 023 229  
 Publ. Date 14 Oct 64 15p.  
 Kederis, Cleves J. and Others  
**Training for Increasing Braille Reading Rates. Final Report.**  
 American Printing House for the Blind, Louisville, Kentucky  
 Vocational Rehabilitation Administration (DHEW), Washington, D. C.  
 EDRS mf.hc  
 VRA-RD-1086S-63

Descriptors: exceptional child research; visually handicapped; reading; braille; motivation; tachistoscopes; reading speed; reading comprehension; pacing; reading tests; teaching machines; test results; positive reinforcement

Two studies used controlled exposure devices in attempts to improve braille reading. The three null hypotheses tested were that reading practice under controlled exposure does not increase reading rates, any increase will not be maintained, and no differences in comprehension occur because of practice. Subjects were selected by the Gates Basic Reading Test and randomly assigned to experimental and control groups. The first group of three subjects in grades 6 to 12 was divided into fast, average, and slow readers at each of three grade levels, while the second study chose the 16 highest and 16 lowest scorers. The first study trained the experimental subjects in 22 half-hour sessions on consecutive days with the tachistotactometer, and reading test forms were administered one month prior to training, immediately following training, and 1 to 2 months after training. In the second study, experimental subjects practiced paced reading (with attempted increases of two and one-half words per minute each day) for 20 half-hour sessions on consecutive days, using two books with vocabulary grade levels 5 to 9 and 7 to adult on the IBM Braille Reading Machine. The null hypotheses were confirmed in both studies. Significant reduction in reading time occurred on the motivated tests in both studies ( $p$  less than .001 and  $p$  less than .01 respectively) in all the experimental and control groups. (DF)

**ABSTRACT 11182**

EC 01 1182 ED 027 666  
 Publ. Date 68 101p.  
 Lord, Francis E.; Blaha, Lawrence E.  
**Demonstration of Home and Community Support Needed to Facilitate Mobility Instruction for Blind Youth. Final Report.**

California State College, Los Angeles,  
Special Education Center  
Rehabilitation Services Administration  
(DHEW), Washington, D. C.  
EDRS mf, hc  
DG-RD-1784-S

Descriptors: exceptional child research;  
visually handicapped; visually handi-  
capped mobility; travel training; mobility  
aids; blind; parent attitudes; demonstra-  
tion projects; individual instruction; fol-  
lowup studies; student evaluation; pro-  
gram evaluation; visually handicapped  
orientation; teacher role; case records

To study the needs for orientation and  
mobility training in Los Angeles County,  
project a comprehensive training pro-  
gram, and demonstrate a model service  
in representative regions, 51 blind ado-  
lescents (23 girls and 28 boys) ranging in  
age from 13 to 21 were given an average  
of 108 class periods of intensive, individ-  
ual training by orientation and mobility  
specialists. Each instructor had five or  
six students; about 100 periods of in-  
struction were found to be necessary to  
develop mobility skills. Parents' coopera-  
tion was solicited by conferences with  
the specialists and a parent training pro-  
gram. The tendency of parents to over-  
protect their blind children, especially  
their girls, was found to be a major limit-  
ing factor. The students tended to have a  
limited knowledge of their environment,  
were lacking in physical development,  
and made limited use of the training be-  
cause they had developed few travel  
needs beyond their homes and the  
school. Included are discussions of relat-  
ed projects, case histories, and copies of  
evaluation and followup forms. (LJ)

#### ABSTRACT 11204

EC 01 1204 ED N.A.  
Publ. Date Apr 66 6p.  
Dokecki, and R.

**Verbalism and the Blind: A Critical  
Review of the Concept and the Litera-  
ture.**

EDRS not available  
Exceptional Children, V32 N8 P525-30  
Apr 1966

Descriptors: exceptional child research;  
visually handicapped; blind; cognitive  
processes; concept formation; psycholin-  
guistics; research needs; research prob-  
lems; language

Current theorizing in psycholinguistics is  
summarized, pointing up the inadequacy  
of the notion that verbalism (nonsensory  
based words) are meaningless and detri-  
mental to conceptual thinking to the  
blind. The failure to acknowledge the  
word-word nature of meaning is cited as  
the significant flaw in the development of  
the verbalism construct. A review of the  
literature indicates some of the metho-  
dological problems in research on verbal-  
ism. Suggestions for future research on  
the phenomenon are presented. A bibli-  
ography cites 14 studies reviewed. (KH)

#### ABSTRACT 11295

EC 01 1295 ED 023 247  
Publ. Date Nov 67 93p.  
Tisdall, William J. and Others  
**Divergent Thinking in Blind Children.**

Kentucky University, Lexington  
Office of Education (DHEW), Washing-  
ton, D. C., Bureau of Education for the  
Handicapped  
EDRS mf, hc  
OEG-32-27-0350-6003  
BR-5-09  
P-R-0121021)

Descriptors: exceptional child research;  
visually handicapped; cognitive process-  
es; divergent thinking; test results; resi-  
dential schools; day student; intelligen-  
ence; sex differences; language fluency;  
visually handicapped mobility; visual  
learning; blind; children; average stu-  
dents

Objectives of this study on the influence  
of visual deprivation upon the divergent  
thinking dimension of intelligence were  
to compare the divergent thinking abili-  
ties of blind and sighted children in resi-  
dential and day school programs, and to  
determine the relationship between diver-  
gent thinking and age of onset of blind-  
ness, mobility, school achievement, and  
sex differences. Six tests of divergent  
thinking and three Stanford Achievement  
Test subtests were administered to 228  
children (aged 10 to 12 with average  
IQ's) in three groups (sighted, blind resi-  
dential, and blind day school students) of  
76 each. The blind groups received a  
mobility rating by their teachers. Results  
showed blind children to be more fluent  
but otherwise generally equal to sighted  
children in divergent thinking. No major  
differences were found in scores of resi-  
dential and day school blind. Little or no  
relationship was found between diver-  
gent thinking and school achievement  
and between divergent thinking and mo-  
bility among the blind subjects. Males  
tended to score higher than females, and  
conclusions could not be drawn regard-  
ing age of onset. (Author/SN)

#### ABSTRACT 11297

EC 01 1297 ED 024 198  
Publ. Date Aug 67 161p.  
Lord, Francis E.

**Preliminary Standardization of a Scale  
of Orientation and Mobility Skills of  
Young Blind Children. Final Report.**

California State College, Los Angeles  
Office of Education (DHEW), Washing-  
ton, D. C., Bureau of Research  
OEG-4-7-062464-0369  
BR-6-2464

Descriptors: exceptional child research;  
visually handicapped; tests; blind; visu-  
ally handicapped mobility; visually handi-  
capped orientation; test reliability; rating  
scales; behavior rating scales; test con-  
struction; individual tests; performance  
tests

In order to identify orientation and mo-  
bility skills essential for young blind chil-  
dren, a master list of skills was compiled  
from developmental studies and teach-  
ers' observations and formed into a scale  
comprised of 47 subscales, each of  
which had three or more items arranged  
in developmental order. Scaling was  
done by jury judgment and by full trial  
with the children and refined to 26 sub-  
scales which related to self-help in travel,

formal orientation and mobility pre-can-  
skills, movement in space, use of senso-  
ry cues in travel, and directions and  
turns. A test-retest procedure with 41  
subjects was used to test the reliability.  
Norming data were collected on 173 sub-  
jects, ages 3 to 12, who were representa-  
tive of elementary age blind children. All  
were blind or had light perception only,  
and had normal intelligence and no phys-  
ical disabilities which would interfere  
with orientation and mobility. Twenty-  
four test items which possessed an ac-  
ceptable range of difficulty (20 to 80%)  
and a high reliability (.91 for the entire  
form) were used to construct a short  
form. The remaining promising items  
were used to construct instructional  
tasks in orientation and mobility for  
young blind children (34 items) and pre-  
cane orientation and mobility skills (25  
items), forty-four references, 11 tables,  
and the instruments are given. (Author/  
SN)

#### ABSTRACT 11652

EC 01 1652 ED 030 224  
Publ. Date Mar 63 83p.  
Karnes, Merle B.; Wollersheim, Janet P.

**An Intensive Differential Diagnosis of  
Partially Seeing Children to Determine  
the Implications for Education.**

Champaign Community Unit 4 Schools,  
Illinois. Department of Special Services  
EDRS mf, hc

Descriptors: exceptional child research;  
visually handicapped; achievement; ad-  
justment (to environment); partially  
sighted; clinical diagnosis; individual  
differences; peer relationship; underach-  
ievers; reading achievement; intelligen-  
ence; visual perception; arithmetic; case  
studies (education); interpersonal rela-  
tionship; personal adjustment; psycholin-  
guistics; memory; social adjustment

Sixteen partially seeing children in  
grades 1 to 8 who were enrolled in a  
special resource room program were se-  
lected for differential diagnosis; their  
characteristics as a group and as individ-  
uals were delineated. Tests administered  
were the Stanford Binet Intelligence  
Scale, Illinois Test of Psycholinguistic  
Abilities, Wechsler Intelligence Scale for  
Children (verbal section), Benton Visual  
Retention Test, Vineland Social Maturity  
Scale, a sociometric technique, California  
Picture Test of Personality, and Michigan  
Picture Test. Each subject's mental age  
was used in the Horn formulas (1947) to  
determine reading and arithmetic expectan-  
cies; the Stanford Achievement Test in  
large and regular size type was used to  
determine actual achievement; and oral  
reading was measured by Gray's Oral  
Reading Paragraphs tests and four sub-  
tests of the Monroe Diagnostic Reading  
Examination. The following hypotheses  
regarding the partially seeing were up-  
held: they are not achieving at a level  
equal to their abilities (discrepancies at  
.05 level); their psycholinguistic process-  
es which involve visual and motor abili-  
ties are inferior to their auditory and  
vocal abilities; they are less well accept-  
ed in class than normal seeing peers. The



data did not support the hypotheses that, compared to the seeing, partially sighted children have inferior visual memory, are less socially mature, or show poorer personality adjustment. Three case studies are provided. (J.E)

#### ABSTRACT 11677

EC 01 1677 ED 030 232  
Publ. Date 68 185p.  
Lowenfeld, Berthold and Others.  
**Blind Children Learn to Read.**  
EDRS not available  
Charles C Thomas, Publisher, 301-327  
East Lawrence Avenue, Springfield, Illi-  
nois 62703 (\$8.50).

Descriptors: exceptional child research; visually handicapped; reading achievement; reading instruction; braille; blind; national surveys; teaching methods; residential schools; intelligence differences; preschool children; reading readiness; teacher role; student evaluation; grade 4; grade 8; individual characteristics; reading comprehension; reading speed; public schools; research reviews (publications).

Three hundred sixty-two questionnaires concerning braille reading instruction were completed by teachers in all 50 regular residential schools for the blind in the United States and in 258 local schools. Results revealed a considerable uniformity of methods. Two hundred blind students in grades 4 and 8 of local and residential schools were questioned concerning personal characteristics and reading behavior, and tested with the reading section of the Sequential Tests of Educational Progress and reading comprehension section of the Stanford Achievement Tests. Reading comprehension of the blind subjects, compared to that of seeing children, was at least equal in grade 4 and superior in grade 8. Reading rates for grade 4 were 84 words per minute in local schools and 72 in residential schools (not a statistically significant difference) and for grade 8 were 149 in local schools and 116 in residential schools (a significant difference). The book also includes a history of Louis Braille and his system, reviews basic research on braille reading, and discusses readiness for learning to read, the teacher's role in the reading program, and special problems in braille reading. Eighty-seven references are listed. (J.E)

#### ABSTRACT 20145

EC 02 0145 ED N.A.  
Publ. Date Mar 69 8p.  
Mills, Robert J.; Adamshick, Donald R.  
**The Effectiveness of Structured Sensory Training Experiences Prior to Formal Orientation and Mobility Instruction.**

EDRS not available  
Education of the Visually Handicapped;  
VI N1 P14-21 Mar 1969

Descriptors: exceptional child research; visually handicapped; sensory training; program descriptions; auditory training; visually handicapped orientation; visually handicapped mobility; nonverbal tests; intelligence tests

To develop non-visual perceptions in small group settings in order to accelerate the ability of the blind to learn travel skills, 44 blind students were given a sensory training program. Each student was evaluated, assigned to groups, and instructed in body awareness, posture, physical fitness, auditory training, and orientation and pre-cane skills. These students then took a 5-week orientation and mobility program along with 38 others who had not had previous training. A comparison of the two groups showed that the pretrained group had more skills, and higher proficiency ratings, performance averages, and percentile ratios than the untrained group. (JM)

#### ABSTRACT 20199

EC 02 0199 ED 031 867  
Publ. Date Feb 69 126p.  
Newland, T. Ernest  
**The Blind Learning Aptitude Test.**  
Illinois University, Urbana  
Office of Education (DHEW), Washing-  
ton, D. C., Bureau of Research  
EDRS mf,lc  
OEG-3-6-061928-1558  
BR-6-1928

Descriptors: exceptional child research; visually handicapped; tests; tactile adaptation; aptitude tests; testing; intelligence tests; test validity; test construction; tactical perception; individual tests; research methodology; sampling; achievement tests; racial differences; sex differences; age differences; geographic location; test reliability; Blind Learning Aptitude Test

A Blind Learning Aptitude Test (BLAT) was developed on the basis of sense of touch rather than on conventional experience, fine sensory discrimination, or verbal competency. From a pool of about 350 items, most of them used in testing intelligence in the sighted, a pool of 94 was selected and embossed after the manner of braille. A residual pool of 49 test and 12 training items was selected through the responses of some 500 blind children. Normative data were gathered on the responses of 961 subjects. Analyses of the data indicated the following correlations for the BLAT: internal consistency, .934; test-retest reliability over 7 months, .865; and Hayes Binet mental ages, and Wechsler Intelligence Scale for Children verbal ages, .89 for the 420 children for whom preceding scores were available. Although the BLAT was found to lose discriminative power at or near the 12-year level, it was suggested as being more valuable than the Hayes Binet or the Wechsler for younger children since it tests process rather than product behavior. (JD)

#### ABSTRACT 20257

EC 02 0257 ED N.A.  
Publ. Date May 67 2p.  
Hammill, Donald D.; Powell, Lafayette S.

**An Abstraction Test for Visually Handicapped Children.**

EDRS not available  
Exceptional Children; V33 N9 P646-7  
May 1967

Descriptors: exceptional child research; visually handicapped; tests; cognitive processes; test standardization; item analysis; abstraction tests; test reliability; test validity

To determine if Form X of the Abstraction Test (AT), originally designed for the cerebral palsied, could be used with the visually handicapped, it was administered to 94 children enrolled in classes for the blind and visually handicapped. The subjects were between the ages of 5 and 10 and had normal intelligence and adequate hearing. Standardization operations included item analysis for difficulty, discriminating power, and uniqueness, reliability, and validity on item analysis. With two exceptions, the discriminating powers exceeded the cutting off point of  $r$  equals .50; the uniqueness values were all less than  $r$  equals .50; and only 2% of difficulty were outside the acceptable range of 15 to 90. The Kuder-Richardson Formula, used to assess reliability, determined a coefficient of .90. The validity of the test was evaluated by means of extreme groups. Chronological age and IQ scores were the two criteria. As ratios associated with the extreme groups were both statistically significant (.01 level of confidence), validity of the AT was supported. Thus, Form X of the AT was adequately discriminative to warrant its use with visually handicapped children between 5 and 10 years of age. (Author/ SB)

#### ABSTRACT 20298

EC 02 0298 ED N.A.  
Publ. Date Nov 69 9p.  
Nolan, Carson Y.; Morris, June E.  
**Learning by Blind Students Through Active and Passive Listening.**  
EDRS not available  
Exceptional Children; V36 N3 P173-81  
Nov 1969

Descriptors: exceptional child research; visually handicapped; listening; speech compression; listening comprehension; learning characteristics

Studies were conducted comparing learning achieved by blind students at different grade levels for 3 types of material presented at normal and compressed rates under conditions of active and passive listening. Findings of the research lend support to the theory that active participation in the listening process results in greater learning. A secondary finding was that comprehension of uncompressed material was superior to comprehension of compressed material under conditions of motivation. (Author)

#### ABSTRACT 20335

EC 02 0335 ED N.A.  
Publ. Date Oct 69 5p.  
Hammill, Donald; Crandell, John M., Jr.  
**Implications of Tactile-Kinesthetic Ability in Visually Handicapped Children.**

EDRS not available  
Education of the Visually Handicapped;  
VI N3 P65-9 Oct 1969

Descriptors: exceptional child research; visually handicapped; perception tests;

tactual perception; test reliability; kinesthetic perception; socioeconomic status; Tactile Kinesthetic Form Discrimination Test

Fifty randomly selected subjects were studied to examine the reliability, validity and relationship between the Tactile Kinesthetic Forms Discrimination Test (TKT) and CA, MA, IQ, abstracting ability, sound discrimination ability, visual acuity, fathers' occupation, and Braille reading ability. The subjects were administered the TKT, the Abstraction Test, and the Sound Discrimination Test; in addition, the father's occupation (an indicator of socioeconomic status) was obtained from school records. The results indicated the TKT cannot be used as a substitute for IQ Tests with the visually impaired; TKT performance is not significantly related to CA; socioeconomic status is not related to TKT performance, and the relationship between TKT performance and level of residual vision was not significant. (JP)

#### ABSTRACT 20336

EC 02 0336 ED N.A.  
Publ. Date Oct 69 8p.  
Gore, George V.  
**A Comparison of Two Methods of Speeded Speech.**  
EDRS not available  
Education of the Visually Handicapped; VI N3 P69-76 Oct 1969

Descriptors: exceptional child research; visually handicapped; speech compression; listening comprehension; recall (psychological); learning characteristics

Thirty-two blind students with an average of more than 3-year's experience in listening to recorded educational materials were tested to examine comprehension and recall of speeded speech. Sixteen subjects were used to test accelerated versus compressed methods and 16 were tested on normal versus speeded methods, accelerated and compressed. The results indicated that students achieved higher comprehension by listening to compressed rather than accelerated material (significant at the .05 level), and that students will achieve higher recall scores on compressed material rather than accelerated material (significant at the .05 level). Results concerning the type of material presented and the cognitive skills involved were varied but seemed most negative under accelerated conditions. (JP)

#### ABSTRACT 20339

EC 02 0339 ED N.A.  
Publ. Date May 69 4p.  
Blackhurst, A. Edward and Others  
**Relationship between Mobility and Divergent Thinking in Blind Children.**

EDRS not available  
Education of the Visually Handicapped; VI N2 P33-6 May 1969

Descriptors: exceptional child research; visually handicapped; divergent thinking; blind; visually handicapped mobility; testing

To determine if a relationship exists between mobility and divergent thinking in blind children, 76 students from day school programs and 76 residential school children (ages 10 to 12 years) were scored on six tests. The tests used were Word Fluency, Product Improvement, Unusual Uses, Ideational Fluency, and Seeing Problems. The highest correlation between mobility and divergent thinking (.33) was found among the day school students, while no significant correlation was found in the residential group. The conclusion was that if a relationship exists between mobility and divergent thinking in day school students it is a slight one at best. (JM)

#### ABSTRACT 20385

EC 02 0385 ED N.A.  
Publ. Date Oct 69 5p.  
Lord, E. E.  
**Development of Scales for the Measurement of Orientation and Mobility of Young Blind Children.**  
EDRS not available  
Exceptional Children; V36 N2 P77-81 Oct 1969

Descriptors: exceptional child research; visually handicapped; visually handicapped mobility; visually handicapped orientation; behavior rating scales; test construction; test reliability

Due to the growing interest in extending orientation and mobility instruction to include elementary school age blind children, research was carried out to define the behavioral components in orientation and mobility which are relevant for young blind children, and to develop scales for the measurement of these skills. The construction of the scales is described. A short form was administered to 173 blind children; the test reliability was above .90, and pupil performance on the majority of items correlated above .70 with the total score. Blind subjects were significantly better than those with light perception on pointing out cardinal directions, demonstrating parts of a door, and using a door key. Additional results are reported. (Author/RJ)

#### ABSTRACT 20425

EC 02 0425 ED N.A.  
Publ. Date Feb 67 6p.  
Trisman, Donald A.  
**Equating Braille Forms of the Sequential Tests of Educational Progress.**  
EDRS not available  
Exceptional Children; V33 N6 P419-24 Feb 1967

Descriptors: exceptional child research; visually handicapped; blind; achievement tests; tactile adaptation; braille; residential schools; intermediate grades; secondary grades; test interpretation; standardized tests; academic achievement; Sequential Tests of Educational Progress

Social studies, science, and mathematics Sequential Tests of Educational Progress (STEP) were adapted and translated into braille to compare academic achievement of blind and sighted students. Because certain items proved inappropriate for translation, the braille forms contained

fewer items. The braille STEP tests were administered to all classes (25 or more students per grade group) of the appropriate grades (5 to 11) in 29 of 48 residential schools for the blind. STEP were also administered to sighted groups, and blind and sighted groups were compared on items common to STEP and braille STEP, and appearing early in each separately timed part of STEP. In general, the blind samples used in the study were roughly comparable in achievement level to the national norms samples when tested under untimed conditions with instruments adapted for their use. Tables of results are included as are five references. (JF)

#### ABSTRACT 20502

EC 02 0502 ED N.A.  
Publ. Date Oct 69 13p.  
Flanigan, Patrick J.; Joslin, Elizabeth S.  
**Patterns of Response in the Perception of Braille Configurations.**  
EDRS not available  
New Outlook Blind; V63 N8 P232-44 Oct 1969

Descriptors: exceptional child research; visually handicapped; tactual perception; programed materials; braille; tachistoscopes; discrimination learning; reading speed

To examine the relationship between stimulus presentation and response on a programed tachistoscopic instructional device, and the effect of a remediation program on this relationship and on the speed of braille reading, 27 subjects in grades 3 through 9 were studied (ages ranged from 110 to 212 months, mental ages from 93 to 269 months, and IQ's from 65 to 144). The subjects were divided into two groups, one using a programed learning device, the other traditional braille materials. The results indicated reading errors increased as speed of presentation increased; subjects with higher IQ's made fewer errors on programed material than those with lower IQ's; certain letters in traditional braille were more difficult than others (R, Z, and S) seemingly due to lack of characteristic forms; and the group using the remediation device demonstrated an increase in reading rate of three and one half words per minute over the control group. (JP)

#### ABSTRACT 20696

EC 02 0696 ED N.A.  
Publ. Date Jan 70 6p.  
Thurrell, Richard J.; Rice, David G.  
**Eye Rubbing in Blind Children: Application of a Sensory Deprivation Model.**  
EDRS not available  
Exceptional Children; V36 N5 P325-30 Jan 1970

Descriptors: exceptional child research; visually handicapped; behavior patterns; eyes; sensory deprivation; visual acuity; age differences

Eye rubbing is one of the stereotyped behaviors occurring in blind children and is of concern to those who work toward the acceptance and adjustment of the

blind in the sighted world. It is relevant to other issues, such as child development, sensory deprivation, and critical periods. Confirmatory evidence for hypotheses drawn from sensory and social deprivation studies was found; children with capacity for only minimal, unpatterned visual input were rated significantly higher in eye rubbing than either the totally blind or those with more usable, patterned vision. An additional finding, that similar significant differences persisted but in diminished degree in older children compared to younger, was related to both training effects and critical period concepts. (Author)

#### ABSTRACT 20832

EC 02 0832 ED 032 699  
 Publ. Date Aug 69 62p.  
**A Demonstration Project on Developing Independence in Preschool Visually Handicapped Children.**  
 Allegheny County Schools, Pittsburgh, Pennsylvania  
 Office of Education (DHFW), Washington, D. C.  
 EDRS mf,he

Descriptors: exceptional child research; visually handicapped; preschool education; case studies (education); self care skills; body image; space orientation; socialization; teaching methods; individual instruction; behavior rating scales; parent education; program costs; professional personnel; screening tests; student evaluation

Seven preschool blind children participated in a 6-week program for developing independence in these areas: movement in space, self help skills, effective use of residual vision, socialization, and body image. Children were provided with a variety of activities, were encouraged to do things for themselves, and were accompanied by an aide who helped them express themselves and who assisted in carrying out the teachers' programs. Parent education meetings were held, and caseworkers provided counseling. Case studies of the children indicate improvements in self help and other skills; each child was evaluated on three scales for blind children which indicated an increased number of items able to be completed for most of the children. Reports of professional visitors were favorable. Information on the staff, cost of the program, and dissemination is provided; the three evaluation scales, as well as behavioral observations, are included. (RJ)

#### ABSTRACT 20921

EC 02 0921 ED 019 809  
 Publ. Date 30 Aug 67 20p.  
 Nelson, Calvin C.  
**An Exploratory Study of the Development and Utilization of a Grade Two Braille Translator for the Honeywell 222 High Speed Braille Printer. Final Report.**  
 University of Southern California, Los Angeles  
 EDRS mf,he  
 PROJ-NO-6-8925  
 OEG-4-7-008925-0500

Descriptors: exceptional child research; visually handicapped; braille; machine translation; computers; instructional materials; surveys; computer programs; technology; printing; input output; blind; Grade Two Braille; Honeywell Series 200 System

In order to explore the technical and practical problems involved in bringing the Honeywell Model 222 Modified Braille Printer to full utilization, three objectives were developed: exploration of the problems related to the development of a translator system, exploration of a system for direct input of Grade Two Braille so that the advantages of automation could be partially realized, and exploration of the needs of teachers of the visually handicapped for brailled materials. A translator system was developed for the Honeywell Printer which considered both its software and hardware components that could be made operational in 1 1/2 years. Cost estimates for a full scale translator were also obtained. A program of direct input to Grade Two Braille was completed, and the possibility of using remote equipment was explored. However, it was not possible to test the program. A survey of the needs of teachers of the blind in California revealed that the demand for generally available texts is less than for materials that are not in sufficient demand to justify mass production (supplementary texts, special information pamphlets, recreational reading materials, etc.). Such materials are appropriate for use with the Honeywell Printer. Suggestions are made for the future development of the translator. Transparencies for use with direct input Grade Two Braille are included. A bibliography contains seven items. (RS)

#### ABSTRACT 21176

EC 02 1176 ED N.A.  
 Publ. Date Dec 69 5p.  
 Miller, Charles K.  
**Conservation in Blind Children.**  
 EDRS not available  
 Education of the Visually Handicapped; VI N4 P101-5 Dec 1969

Descriptors: exceptional child research; visually handicapped; conservation (concept); concept formation; cognitive development; measurement techniques; blind

An explanation of the Piagetian framework of conservation development is explained with several studies sighted on research which investigated the efficiency of tactual perception among the visually handicapped. It was hypothesized that conservation could be reliably measured in blind children as well as the interrelationships of age, sex, and mental ability with conservation. Twenty-six visually impaired youngsters, aged 6 to 10, mean IQ 94, were administered the Slosson Intelligence Test and then individually administered a series of three conservation tasks involving substance, weight, and volume. To establish test-retest reliability of the three tasks, the series was readministered 5 weeks later. Results indicated that a partially sighted group

did significantly better than a low vision group in their ability to conserve. Behavior measured by the conservation tasks were found to be stable over time. Moderate relationships were found to exist between IQ and the attainment of conservation. Findings suggest that visual intactness may be an important determinant in the development of reasoning and several earlier findings were upheld by the present study. (author/WW)

#### ABSTRACT 21269

EC 02 1269 ED N.A.  
 Publ. Date Mar 70 2p.  
 Hammill, Donald D. and Others  
**The Slosson Intelligence Test Adapted for Visually Limited Children.**  
 Exceptional Children; V36 N7 P535-6 Mar 1970

Descriptors: exceptional child research; test validity; intelligence tests; visually handicapped; test reliability; Slosson Intelligence Test

A shortened version (1963) of the Slosson Intelligence Test (SIT) was adapted for visually handicapped children. Test reliability on the shortened SIT was .95. The test was administered to 32 visually handicapped students (mean age 8-4) with appropriate modifications, and correlated with IQ scores from school records .83, with the Abstraction Test .80, with the Tactile-Kinesthetic Form Discrimination Test .80, with the Sound Discrimination Test .66, and with parental ratings of intellectual performance .65. It appears that the SIT can be useful in testing visually impaired children. (JM)

#### ABSTRACT 21272

EC 02 1272 ED 003 089  
 Publ. Date 65 35p.  
 Ashcroft, Samuel C. and Others  
**Study II, Effects of Experimental Teaching on the Visual Behavior of Children Educated as Though They Had No Vision.**  
 George Peabody College for Teachers, Nashville, Tennessee  
 EDRS mf,he  
 OEG-32-52-0120-1034  
 BR-5-0973

Descriptors: exceptional child research; teaching methods; perception; visually handicapped; partially sighted; visual discrimination; special programs; experimental programs

The specific objectives of the study were to confirm that a short period of experimental teaching enhances the visual behavior of partially sighted children to the extent that there are significant increases in visual discrimination test scores, and that there is a significant increase in recorded near-vision acuity of experimental subjects as determined by an ophthalmologist. This was a repetition of an earlier experiment. Experimental groups were constituted at schools for the blind in Kentucky, Tennessee, and Virginia. Control groups were constituted in Arkansas, Illinois, and Texas. Teachers were given lesson plans and other materials, and were instructed in their use.

Significant gains resulted in visual functioning as measured by the Visual discrimination test. Thus, positive findings of the previous study were confirmed. (1 B)

#### ABSTRACT 21367

EC 02 1367 ED N.A.  
Publ. Date Mar 70 8p.  
Patton, William F.

#### Research on Criteria for Measuring Mobility Readiness of Adventitiously Blind Adults.

EDRS not available  
New Outlook for the Blind: V64 N3 p73.  
9, 88 Mar 1970

Descriptors: exceptional child research; visually handicapped; visually handicapped mobility; readiness; travel training; performance criteria; blind; adults

To identify specific factors of mobility readiness and to prepare an instrument for measuring readiness, subjects were rated on 14 criteria. The ratings which were not important were health, hearing, stability of eye condition, income and housing, living situation, and freedom from depression. The following criteria were found to have a positive correlation with performance willingness to leave home area with a guide, realistic acceptance of visual problems, need for training, intelligence, motivation, willingness for community knowledge of blindness, acceptance of white cane, and adjustment prior to blindness. Tables of results are provided and further research suggested. (JM)

#### ABSTRACT 21534

EC 02 1534 ED N.A.  
Publ. Date Feb 70 5p.  
Sterling, Theodore D.

#### Report on Progress in the Development of Visual Prostheses.

EDRS not available  
New Outlook for the Blind: V64 N2 P41.  
5 Feb 1970

Descriptors: exceptional child research; visually handicapped; prostheses; sensory aids; stimulus devices; systems development; electrical systems

The report on progress in the development of visual prostheses discusses the following information: exploratory work based on the technique of electrical stimulation of visual cortex inducing phosphenes, experimental implantation done by Brindley and Donaldson, composition and construction of a suitable electrode array, the use of small computers, the four components of a visual prosthesis system, and information exchange from conferences. (RD)

#### ABSTRACT 21607

EC 02 1607 ED N.A.  
Publ. Date Mar 70 8p.  
Franks, Frank L.; Nolan, Carson Y.

#### Development of Geographical Concepts in Blind Children.

EDRS not available  
Education of the Visually Handicapped:  
V2 N1 P1-8 Mar 1970

Descriptors: exceptional child research; visually handicapped; geographic con-

cepts; geography; space orientation; concept formation

To explore geographical concepts of blind students, 15 subjects each from grades 4, 6, 8, 10 and 12 were tested. Prior to this, 10 children were tested for directional concepts, and it was discovered that the fourth grade should be used as the lowest grade in testing geographical concepts. The geographical test consisted of 70 terms which each student was to define and explain. The results indicated that grades 6, 10, and 12 had the highest overall scores; some of the concepts are unknown to several grade levels; higher scores appear to reflect a repetition of terms in school curriculum; increased repetition of terms contributed to higher overall gains; gains due to repetition decreased when repetition was reduced; gains due to repetition and reintroduction of terms in differing contexts were the greatest but also decreased over short time periods; and presence of patterns of increased learning through repetition is supported. Tables of results are included. (JM)

#### ABSTRACT 21609

EC 02 1609 ED N.A.  
Publ. Date Mar 70 13p.  
Tobin, M. J. and Others

#### Programed Learning for the Blind: Some Exploratory Studies.

EDRS not available  
Education of the Visually Handicapped:  
V2 N1 P11-23 Mar 1970

Descriptors: exceptional child research; visually handicapped; programed instruction; educational methods; braille; science instruction; social studies; teaching machines; England

Six studies on programed learning for the blind are presented. The research is concerned with using programed instruction for teaching braille (two studies using two different programs), a project to develop and construct a braille teaching machine, use of a branching program to teach social studies, testing a science program, and evaluating the effectiveness of braille and audio presentation of programed materials. Each study is briefly described and tables of results presented. The general conclusions reached were that programed instruction is effective in teaching the visually impaired, that programing may be of value in all curriculum areas, and that in many cases programs for the sighted may be readily adapted for use with the visually handicapped. (JM)

#### ABSTRACT 21769

EC 02 1769 ED 035 148  
Publ. Date Sep 69 35p.  
Harley, Randall K.

#### Comparison of Several Approaches for Teaching Braille Reading to Blind Children. Final Report.

George Peabody College for Teachers, Nashville, Tennessee  
Office of Education (DHEW), Washington, D. C., Bureau of Education for the Handicapped  
EDRS mf.hc

OEFG-27-002975-0453  
BR-6-2975

Descriptors: exceptional child research; visually handicapped; braille; reading instruction; blind; partially sighted; program development; program evaluation; instructional materials; reading materials; beginning reading; research needs; initial teaching alphabet

To develop and test materials to be used in a later 2-year study to compare six approaches in teaching braille reading, materials in grade 1 and grade 2, braille, and phonemic braille media (both analytic and synthetic approaches), 39 subjects from six residential schools were evaluated. Special books were embossed in grade 1 and phonemic braille, and phonemic codes were prepared for use with the analytic and synthetic readers. The teachers were given a 3-day workshop preceding the program. They made daily progress reports and their reactions were used in the evaluation of each approach. At the end of the 1-year program the results indicated that phonemic braille could be used with beginning braille readers; the analytic approach appeared to function more effectively for the phonemic materials than the synthetic approach; grade 1 approaches were not adequately measured; and further research is necessary with development of more adequate materials utilized to make generalizations concerning approaches in braille reading. (Author/JM)

#### ABSTRACT 21773

EC 02 1773 ED 035 152  
Publ. Date 68 150p.  
Josephson, Eric

#### The Social Life of Blind People. American Foundation for the Blind Research Series No. 19.

American Foundation for the Blind, New York, New York  
EDRS not available  
American Foundation for the Blind, 15 West Sixteenth Street, New York, New York 10011.

Descriptors: exceptional child research; visually handicapped; social life; blind; adults; social isolation; social integration; economic factors; self concept; employment problems; leisure time; special services; incidence; age differences; social relations; reading habits; visually handicapped mobility; financial support; surveys

Discussions and information are concerned with free time and leisure, age, impairment, and leisure, and poverty and leisure; the prevalence of blindness, the self-perception of the blind, their activity and mobility limitations; and problems of poverty of the blind in education, employment, income, and living arrangements. Also discussed are active and inactive people, leisure time preferences, radio and television, social life, cultural activity, reading habits and reading methods, help with worries and problems, and the need for integration into the sighted world. Each chapter has references, extensive tables which indicate the results of interviewing, and examples. (JM)



**ABSTRACT 21774**

EC 02 1774 ED 035 153  
 Publ. Date Jul 68 70p.  
 Cratty, Bryant J.; Sams, Theresa A.  
**The Body-Image of Blind Children.**  
 California University, Los Angeles,  
 Department of Physical Education;  
 Los Angeles City Schools, California,  
 Special Education Branch  
 American Foundation for the Blind, Inc.,  
 New York, New York  
 EDRS mf.hc

Descriptors: exceptional child research; visually handicapped; body image; testing; visually handicapped orientation; space orientation; kinesthetic perception; perceptual motor coordination; sex differences; age differences; intelligence level; evaluation techniques

To develop an assessment device for the evaluation of body image, to evaluate the body image of blind children, to make comparisons between subgroups (sex, age, IQ) and to derive sequences of tasks related to body image training, 91 children (mean age 10.06 years, mean IQ 88.32) were evaluated by a body image survey form. Analysis of the data indicated that a score combining the sub-scores from the body-part and laterality sections was predictive of the total battery score ( $r$  equals .92); no significant sex differences were obtained, but those with IQ's above 80, the totally blind, and children above 13 years scored generally superior to lower IQ, younger, and partially sighted children; the IQ and total test battery score were related (.40); and the total population was incapable of projection into the tester's reference system. Conclusions were that body image may be reliably assessed and that there were significant intragroup differences which have educational implications. Implications of the findings, a bibliography, and tables of results are included. (Author/JM)

**ABSTRACT 21847**

EC 02 1847 ED N.A.  
 Publ. Date May 70 5p.  
 Hanninen, Kenneth A.  
**The Effect of Texture on Tactual Perception of Length.**  
 EDRS not available  
 Exceptional Children: V36 N9 p655-9  
 May 1970

Descriptors: exceptional child research; visually handicapped; tactual perception; blind; perceptual development; sensory integration; concept formation; texture effect

A sample of 107 subjects consisting of 29 blind and 78 sighted elementary and junior high school students in two local public schools and two residential schools for blind were tested for the effect of coarse and fine texture on their ability to judge the lengths of abrasive paper presented individually. It was predicted that the children would underestimate the coarse textures and overestimate the fine textures when stimuli were presented successively for tactual exploration. The results did not support the predicted bias in judgment of length;

however, analysis of the errors to criterion in training supported the idea that texture consistently facilitated or interfered with making judgments of length. Implications for tactile displays in classrooms for the blind are suggested. (Author)

**ABSTRACT 21873**

EC 02 1873 ED N.A.  
 Publ. Date May 70 4p.  
 Bleiberg, Robyn

**Is There a Need for a Specially Designed Reading Series for Beginning Blind Readers?**

EDRS not available  
 New Outlook for the Blind: V64 N5  
 P135-8 May 1970

Descriptors: exceptional child research; visually handicapped; reading; instructional materials; evaluation; beginning reading; teacher attitudes; blind

In order to examine the need for new material to teach reading to blind children, a questionnaire was sent to 101 teachers of the blind. Results showed that 64.4% of the teachers expressed a need for a new beginning series and 77.4% stated that they would use such a series. Several additional responses such as the rating popularity of presently used series are also reported. Unique problems in learning braille are noted, and recommended characteristics for a new series are provided. (RD)

**ABSTRACT 21974**

EC 02 1974 ED 036 953  
 Publ. Date Jan 69 72p.  
**Orientation and Mobility for Blind Adolescents in Public Schools.**  
 Alameda County School Department,  
 Haywood, California  
 Rehabilitation Services Administration  
 (DHEW), Washington, D. C.  
 EDRS mf.hc  
 RD-1168

Descriptors: exceptional child research; visually handicapped; visually handicapped mobility; visually handicapped orientation; program administration; student evaluation; sex differences; personnel; special programs; mobility aids; tactile adaptation; travel training; blind; case records; program evaluation; success factors

Several school districts participated in a project providing orientation and mobility instruction to 50 visually handicapped students. Students received four to five lessons a week and were instructed in long cane usage. Tactual maps were used for orientation. Evaluation by their instructor and an outside expert rated 21 of 27 students as having increased in number and percent of correct behaviors. Information is provided concerning administration, staff, special aspects of the program, and psychological data; conclusions and recommendations are presented. Case records are included for all 50 students; the cane checklist, authorizing legislation, relevant forms, and mileage reimbursement policies are appended. (JD)

**ABSTRACT 22007**

EC 02 2007 ED 036 020  
 Publ. Date Nov 69 221p.  
**A Study of the Vocational Success of Groups of the Visually Handicapped. Final Report.**  
 Michigan University, Ann Arbor, School of Education  
 Social and Rehabilitation Service  
 (DHEW), Washington, D. C.  
 EDRS mf.hc

Descriptors: exceptional child research; visually handicapped; vocational adjustment; followup studies; participant characteristics; case records; success factors; intelligence; personality; vocational interests; socioeconomic status; prediction; academic achievement; interviews; interest tests; unemployment

The purpose of this project was to examine factors that seem to contribute to the vocational success of a group of visually handicapped. The population included 939 subjects for whom test data were available; 644 were interviewed and 207 were retested on various standardized measures. Instruments were developed to obtain initial data from school and agency records and current data from the subjects themselves. The typical subject was male, between the ages of 23 and 42, of average intelligence, lost vision before the age of five, and could not see sufficiently to read large print. Findings showed a high percentage unemployed; those employed had in general an annual income below the median for the general population and were engaged in a narrow range of occupations. Variables that seemed to be most related to vocational success included IQ, sex, other disabilities, travel ability, and level of education. Except for IQ, and certain subtests of vocational interest tests, results of personality and vocational aptitude tests were not highly related to vocational success. Additional data analyses and implications for educators and rehabilitation counselors are discussed. (Author)

**ABSTRACT 22020**

EC 02 2020 ED 036 033  
 Publ. Date 69 110p.  
**Key Braille Contraction Contexts.**  
 American Printing House for the Blind,  
 Louisville, Kentucky  
 Office of Education (DHEW), Washington, D. C.  
 EDRS mf.hc  
 OEG-2-6061190-1578

Descriptors: exceptional child research; visually handicapped; braille; educational technology

The entire report is a listing (made from scanning 7,500,000 words of text from 125 books) of the occurrences of braille contraction sequences. Attention focuses on occurrences in which syllabification, pronunciation, and meaning determine the use or nonuse of the contraction. An introduction explains the procedure and process used. (JM)

**ABSTRACT 22111**

EC 02 2111 ED 023 451  
 Publ. Date (67) 95p.

### **A Study of Visual Perceptions in Early Childhood.**

Western New Mexico University, Silver City  
Office of Education (DHEW), Washington, D. C.  
EDRS mf,he

Descriptors: exceptional child research; culturally disadvantaged; American Indians; conservation (concept); visual perception; cultural factors; ethnic groups; Mexican Americans; perception tests; perceptual development; preschool programs; rural youth; sensory training; visually handicapped; Frostig Visual Perceptions Test; Project Head Start

Over a period of three years a group of 510 rural children participated in a study of visual perceptions, including eye motor coordination, discernment of figures in a ground pattern, form constancy, position in space, and spatial relations, as measured by the Frostig Visual Perceptions Test. Visual perceptions of children of other cultures were compared to those of children of the dominant Anglo-Saxon culture. The relationship of visual perceptions to cultural deprivation was also studied. The development of children's visual perceptions over a period of 18 to 25 months and the effectiveness of various types of programs in improving a child's visual perceptions were investigated. Results of testing showed that all rural children scored low in form constancy. Culturally deprived children scored lower in all perceptions, but visual perception handicaps were sometimes as great as eight times that of control group children. The value of the Frostig developmental training program was demonstrated. Pupil progress was retained for at least one academic year. The study concludes that visual perception handicaps result from cultural deprivation rather than from participation in a nondominant culture. Implications are that rural children would benefit from form constancy training during their first year at school. (MS)

### **ABSTRACT 22116**

EC 02 2116 ED 024 076  
Publ. Date Mar 68 10p.

Manaster, Al; Kuchuris, Sue  
**Experiential Methods in a Group Counseling Program with Blind Children.**

American Society Group, Psychotherapy and Psychodrama, Beacon, New York  
EDRS mf,he

Paper Presented at the American Society Group, Psychotherapy and Psychodrama 27th Annual Conference (New York, New York, March 30, 1968).

Descriptors: exceptional child research; visually handicapped; adolescents; group counseling; group experience; sensitivity training

The paper has tried to describe some of the experiential techniques and methods used in a group counseling situation with blind adolescents. Also, it shows that by using these methods, the group advanced a little further and a little faster than might otherwise have occurred. During

the clinical services meetings, the other group leaders stated that their groups were often avoiding confrontations of their feelings, while we were able to state that members of our group sometimes overwhelmed us with their insights. Possibly, this was because these techniques kept the members alert and involved, showed them that we were interested and would let them do and say things that would normally have been forbidden, and let them know that we wanted to offer a chance to experience new things. Because of this, their reactions and interactions were more spontaneous and off-guard. (Author)

### **ABSTRACT 22160**

EC 02 2160 ED N.A.  
Publ. Date May 70 9p.

Romig, Dennis A.; Van Atta, Ralph E.  
**A Validity Study of the Adolescent Emotional Factors Inventory.**

EDRS not available  
Education of the Visually Handicapped; V2 N2 P38-46 May 1970

Descriptors: exceptional child research; visually handicapped; personality assessment; test validity; adjustment (to environment); adolescents; Adolescent Emotional Factors Inventory

To test the validity of the Adolescent Emotional Factors Inventory (AEFI) for predicting adjustment in visually handicapped adolescents, 155 visually handicapped secondary students were given the AEFI and the scores were intercorrelated separately and in combination with 15 measures of adjustment and achievement. The intercorrelations among subscales were statistically significant (beyond .01 level) except for boy-girl adjustment which indicates that the AEFI measures school adjustment and general maladjustment. Because the nine subscales had a high correlation, the test is probably not useful for differential diagnosis. The attitudes of distrust scale related consistently to lack of success in school and may be an academic self concept scale. (Author/JM)

### **ABSTRACT 22161**

EC 02 2161 ED N.A.  
Publ. Date May 70 5p.

Harley, Randall K.; Rawls, Rachel  
**Comparison of Several Approaches for Teaching Braille Reading to Blind Children.**

EDRS not available  
Education of the Visually Handicapped; V2 N2 P47-51 May 1970

Descriptors: exceptional child research; visually handicapped; reading instruction; braille; teaching methods; phonemics; instructional materials

To determine the best approach to the teaching of beginning braille reading, the study used grade 1, grade 2, and phonemic braille media in both the synthetic and analytical approaches in each of six classes of visually handicapped children (mean IQ 82, median age 7.7 years). The Slosson Oral Reading Test and the Gilmore Oral Reading Test were administered at the end of 1 year of training

with the following results: synthetic-grade 2 approaches appeared to be superior to the synthetic-phonemic; the analytical approach appeared to function more effectively for the phonemic materials; the effectiveness of grade 1 approaches was not adequately measured; and a longer study with more subjects is necessary to determine more accurately the best approach to braille reading. (Author/JM)

### **ABSTRACT 22716**

EC 02 2716 ED 039 658  
Publ. Date Nov 69 181p.

Smith, Clyde Raymond  
**An Analysis of the Effectiveness of a College Preparatory Program for the Visually Impaired.**

Arkansas Enterprises for the Blind, Inc., Little Rock  
Rehabilitation Services Administration (DHEW), Washington, D. C.  
EDRS mf,he

Descriptors: exceptional child research; visually handicapped; college preparation; success factors; program effectiveness; college freshmen; blind; self concept; anxiety; counseling; summer programs; prediction; skill development; vocational education; self evaluation; student attitudes

A 9-week summer college preparatory program for the visually impaired provided counseling and training in academics, mobility, and skill and vocational areas. To determine its effectiveness, tests were administered to its 27 participants and to 18 controls. Results indicated that self concept was a significant variable in discriminating between the two groups and in predicting students likely to persist through the freshman year. The semantic differential techniques also rendered data significant both as a discriminator and a predictor. Anxiety was found not to be significant; attrition was greatest among the 18 controls. (Author/JD)

### **ABSTRACT 22741**

EC 02 2741 ED 039 683  
Publ. Date Dec 69 79p.

Flannagan, Clara H. Robertson  
**A Concentrated Mobility and Orientation Approach for the Improvement of Education for Partially Seeing and Blind Children in Day School Settings. Final Report.**

Kansas State Department of Education, Topeka, Division of Special Education  
Office of Education (DHEW), Washington, D. C., Bureau of Education for the Handicapped  
EDRS mf,he  
OEG-32-26-0000-1013  
BR-5-0963

Descriptors: exceptional child research; visually handicapped; visually handicapped mobility; consultation programs; visually handicapped orientation; blind; partially sighted; teaching methods; demonstration projects

An interdistrict project provided a mobility and orientation instructor to work with blind and partially sighted children.



The instructor was also involved in consultation and cooperative planning with school personnel and in resource room programs. Training was given to 36 children, 15 of whom required formal instruction. Services were extended in various areas. Results were positive and demonstrated the need for mobility and orientation instruction beginning in infancy and continuing throughout the school years. (JD)

#### ABSTRACT 23339

EC 02 3339 ED 010 274  
Publ. Date 66 166p.  
Birch, Jack W. and Others.  
**School Achievement and Effect of Type Size on Reading in Visually Handicapped Children.**  
Office of Education (DHEW), Washington, D. C.  
EDRS mf, hc  
OE 04-10-028 CRP-1766

Descriptors: exceptional child research; visually handicapped; partially sighted; large type materials; reading materials; reading skills; elementary school students; demography; visual acuity; academic achievement

To study school achievement to establish criteria for type size to be used, data was collected on an original sample of 1,084 partially sighted children in grades 5 and 6, and five equivalent forms of a standardized test containing school-like reading tasks, each form in a different type size, were administered. A best size type for each child was determined. A standardized achievement test in appropriate type sizes was then administered, additional data collected, and a statistical analysis performed. Results and conclusions relative to demographic data, intelligence, visual acuity, reading speed and comprehension, school achievement, reading distance, type size, and relationships of certain disabilities and selected educational variables are presented. Stated are implications for special education practices, vocational rehabilitation, teacher education, and research. A separate summary of the project accompanies the text. (KW)

#### ABSTRACT 30478

EC 03 0478 ED N.A.  
Publ. Date Oct 70 2p.  
Morse, John L.

**The Adaptation of a Non-Verbal Abstract Reasoning Test for Use with the Blind.**

EDRS not available  
Education of the Visually Handicapped; V2 N3 P79-80 Oct 1970

Descriptors: exceptional child research; visually handicapped; test evaluation; abstract reasoning; abstraction tests; nonverbal tests; blind; academic promise tests

In a study designed to adapt a group-administered, nonverbal abstract reasoning test for the blind, the Abstract Reasoning Subtest of the Academic Promise Test (APT) was administered to 28 blind ninth graders at Perkins School for the Blind. Results showed a measure of in-

ternal consistency reliability of the test to be 0.950. Predictive validity was determined by correlating the test performance with the grades the blind subjects received in their academic subjects three months after test administration. Correlations ranged from negative .23 (Social Studies) to positive .57 (Science). It was concluded that the adapted test was reliable and possessed predictive validity. (RD)

#### ABSTRACT 30482

EC 03 0482 ED N.A.  
Publ. Date Oct 70 5p.  
Muller, William H.  
**Manifest Anxiety in Visually Impaired Adolescents.**  
EDRS not available  
Education of the Visually Handicapped; V2 N3 P91-5 Oct 1970

Descriptors: exceptional child research; visually handicapped; anxiety; adolescents; regular class placement; anxiety scale for the blind

To examine relative levels of manifest anxiety between students in grades 9 and 10, 11 and 12, and special classes, and between totally blind and partially sighted students, Hardy's Anxiety Scale for the Blind was administered to 50 pupils at a residential school for the blind who were in grades 9-12 and in special classes. Results showed no significant differences when special classes were compared with grades 9 and 10 and 11 and 12, nor when totally blind and partially sighted subjects were compared. In the comparisons of anxiety made within the grades 9, 10, 11, and 12, results indicated the anxiety level of eleventh and twelfth grade subjects to be significantly greater ( $p$  equals .05). (Author/RD)

#### ABSTRACT 30543

EC 03 0543 ED N.A.  
Publ. Date Nov 70 6p.  
Hare, Betty A. and Others.  
**Auditory Discrimination Ability of Visually Limited Children.**  
EDRS not available  
New Outlook for the Blind; V64 N9 P287-92 Nov 1970

Descriptors: exceptional child research; visually handicapped; auditory perception

To examine selected characteristics of auditory discrimination in visually limited and sighted children, a study was made in which 85 visually limited children (median CA 98 months, median IQ 88) and 77 sighted children (median CA 98 months, median IQ 107) were administered the Irwin and the Templin Sound Discrimination Tests. Results showed that the visually limited children did not demonstrate superior sound discrimination ability and that no significant differences were detected in the overall performances of the visually handicapped and sighted children. (RD)

#### ABSTRACT 30849

EC 03 0849 ED N.A.  
Publ. Date Dec 70 5p.  
Eaves, Linda; Klonoff, Harry

#### A Comparison of Blind and Sighted Children on a Tactual and Performance Test.

EDRS not available  
Exceptional Children; V37 N4 P269-73 Dec 1970

Descriptors: exceptional child research; visually handicapped; tactual perception; intelligence differences

Forty blind and 40 sighted children were compared on a Tactual Performance Test (TPT). There were no differences between the blind and sighted groups. Those with no vision or light perception only were superior to the sighted on one TPT variable and superior to those with guiding vision on two TPT variables. IQ was positively correlated with TPT scores for the no vision group and with one TPT variable for those with guiding vision. The totally blind children had a higher mean IQ score than the sighted or those with guiding vision. The implications of these differences are discussed. (Author)

#### ABSTRACT 30881

EC 03 0881 ED N.A.  
Publ. Date Dec 70 8p.  
Jones, Reginald L.  
**Learning and Association in the Presence of the Blind.**  
EDRS not available  
New Outlook for the Blind; V64 N10 P317-24 Dec 1970

Descriptors: exceptional child research; visually handicapped; attitudes; learning; anxiety; interpersonal relationship

Two studies were conducted to explore the feelings of nonhandicapped students toward the handicapped. In the first, 30 undergraduates participated in a verbal learning experiment requiring them to recall words from a list presented five times. A confederate pretending to be blind was present ostensibly to listen and take the test later. No data were found to support the view that the blind confederate interfered with the learning of the subjects. A second study was run in a similar manner but involved interaction between the subjects in the form of comments on themselves and their problems in college. The subjects did not perform more poorly when learning in the presence of the blind person, however there was a greater tendency for the students to believe that their performance was impaired when learning with the blind rather than with the sighted. (RJ)

#### ABSTRACT 31018

EC 03 1018 ED N.A.  
Publ. Date Dec 70 4p.  
Hill, Everett W.

**The Formation of Concepts Involved in Body Position in Space.**

EDRS not available  
Education of the Visually Handicapped; V2 N4 P112-5 Dec 1970

Descriptors: exceptional child research; visually handicapped; concept formation; spatial relationship

To explore the possibility of teaching selected terms (implying position, not movement or action) to congenitally

blind children ages 7-9 years, 30 such children were divided into control and experimental groups and pretested. The test consisted of 75 performance items dealing with terminology of position and physical relationships. During 35-minute sessions (4 days per week for 3 months) with the experimental group, selected activities and games were used to teach each pair of terms (front-back, left-right, etc.) in seven developmental phases. On posttests the experimental group showed a significant gain over pretest scores, while the control group evidenced only minor gains in scores. (KW)

#### ABSTRACT 31922

EC 03 1922 ED 047 486  
 Publ. Date Aug 70 99p.  
 Morris, June E.; Nolan, Carson Y.  
**Aural Study Systems for the Visually Handicapped: A Task Analysis. Interim Progress Report Numbers 1-4.**

American Printing House for the Blind, Louisville, Kentucky  
 Bureau of Education for the Handicapped (DHEW/OE), Washington, D. C.

EDRS mf,hc  
 OEG-0-8-080046-2670(032)  
 BR-8-0046

Descriptors: exceptional child research; visually handicapped; aural learning; material development; task analysis; study habits; learning processes; talking books; speech compression

Four interim progress reports describe various aspects of the Aural Study Systems for the Visually Handicapped research project, designed to explore processes involved in aural learning by the blind and to develop an entire system of study using recorded texts. Prior to development of hardware and specifications for software for such a system, a task analysis of the processes actually involved in aural learning was undertaken to obtain necessary information for the study system development. This task analysis is reported in the first interim progress report. The second report describes an analysis of textbook content to determine a format for most efficient use of recorded material, and analysis of study techniques of sophisticated students currently using aural material for study purposes. Results of a study designed to test the effects of varying motivation and word rate on comprehension are presented in the third report. The fourth report, discussing some parameters of learning by listening, covers research dealing with amounts of time and distribution of practice in aural study as study variables affecting learning through listening. (KW)

#### ABSTRACT 31927

EC 03 1927 ED 048 690  
 Publ. Date Jul 70 20p.  
 Keller, George W.  
**A Mobility Project with Blind Public School Students and Other Selected Rehabilitation Clients. Final Report.**

Maryland State Department of Education, Baltimore, Division of Vocational Rehabilitation  
 Social and Rehabilitation Service (DHEW), Washington, D. C., Division of Research and Demonstration Grants  
 EDRS mf,hc

Descriptors: exceptional child research; visually handicapped; visually handicapped mobility; visually handicapped orientation; travel training; demonstration projects

The demonstration project described was designed to demonstrate the value of teaching modern mobility techniques to legally blind public school students and other vocational rehabilitation clients beyond school age. Twenty-four of the 40 persons receiving intensive mobility training were considered rehabilitated during the project. It is noted that the project probably influenced the school systems involved (Montgomery and Prince George's Counties, Maryland) in their decisions to employ mobility specialists for blind students, and that the Maryland Division of Vocational Rehabilitation also incorporated the position of mobility instructor in its program of services to the blind. Several typical case summaries are presented as examples of the work accomplished in the project. It is concluded that, while no really new or unusually significant results emerged from the study, the recognition and acceptance of mobility as an area needing special attention constitutes a worthwhile achievement. (Author/KW)

#### ABSTRACT 31952

EC 03 1952 ED N.A.  
 Publ. Date Mar 71 7p.  
 Franks, Frank L.; Nolan, Carson Y.  
**Measuring Geographical Concept Attainment in Visually Handicapped Students.**  
 EDRS not available  
 Education of the Visually Handicapped; V3 N1 P11-7 Mar 1971

Descriptors: exceptional child research; visually handicapped; test reliability; test construction; braille; geography

In order to develop a short form instrument for measuring geographical concept attainment of visually handicapped students, 48 students using 24 braille readers and 24 large print readers were studied. A 40-item test was developed which allowed the students to record their own responses. No significant differences were found between braille and large print readers on the test. The study was felt to verify the reliability of the 40-item test as an instrument of evaluating geographical concept attainment. (CJ)

#### ABSTRACT 31990

EC 03 1990 ED 048 714  
 Publ. Date Aug 70 113p.  
 Siegel, Irwin M.; Murphy, Thomas J.  
**Postural Determinants in the Blind. Final Report.**  
 Illinois Visually Handicapped Institute, Chicago, Department of Children and Family Services

Social and Rehabilitation Service (DHEW), Washington, D. C., Division of Research and Demonstration Grants  
 EDRS mf,hc

Descriptors: exceptional child research; visually handicapped; human posture; visually handicapped mobility; visually handicapped orientation; physical therapy; body image; exercise (physiology)

The problem of malposture in the blind and its affect on orientation and travel skills was explored. A group of 45 students were enrolled in a standard 3-month mobility training program. Each student suffered a postural problem some compounded by severe orthopedic and/or neurological deficit. All subjects were given complete orthopedic and neurological examinations as well as a battery of special psychometric tests. Postural problems were diagnosed and treated by a variety of therapeutic techniques, some newly described, including specialized exercise, splintage, and postural physical education programs. Improvement evaluation (by motion picture photography) was made before, during and after the 3-month program. The hypothesis tested was that improvement in posture contributed to improvement in mobility. The final results indicated such a correlation to exist. One implication is that postural training plays an important role in the development of mobility skills and thus in the total rehabilitation of the blind. (Author)

#### ABSTRACT 31991

EC 03 1991 ED 048 715  
 Publ. Date Aug 69 60p.  
 Levine, Helen G.  
**A Proposed Program of Personal Adjustment for Visually Handicapped Pupils.**  
 Cincinnati Public Schools, Ohio, Division of Special Education  
 Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D. C.  
 EDRS mf,hc

Descriptors: exceptional child research; visually handicapped; personal adjustment; program proposals; administration; curriculum development; after school programs; summer programs; personnel needs; teacher qualifications; visually handicapped mobility; visually handicapped orientation; regular class placement; Ohio

A proposal for a personal adjustment program for visually handicapped students is described to contain three primary components: the ongoing curriculum which encourages techniques of modification and application of the presently existing regular curriculum to the needs of the blind; the extended school program which provides out-of-school services as an additional, compensatory aid to the handicapped children; and a summer session to be offered throughout the high school years. Personnel needs are suggested to include braille teachers, mobility instructors, the classroom teacher of a specialized subject who will integrate the visually handicapped into the

regular classroom, and personal adjustment teachers. Suggestions of teacher roles and qualifications, and the development of summer teaching training institutes are noted. Activities and financial implications of the three primary components of the program are discussed. General recommendations for program policy and further study are enumerated. (RD)

#### ABSTRACT 32312

EC 03 2312 ED N.A.  
Publ. Date May 71 4p.  
Huekabee, Malcolm H.; Ferrell, Jack G., Jr.

**The Tactual Embedded Figures Task as a Measure of Field Dependence-Independence in Blind Adolescents.**

EDRS not available

Education of the Visually Handicapped; V3 N2 P37-40 May 1971

Descriptors: exceptional child research; visually handicapped; tactual perception; cognitive processes; blind; adolescents; tactile adaptation; test validity; Embedded Figures Test

The study was designed to further investigate previous research (Witkins et. al.) regarding the role of vision in the articulation of experience by comparing totally blind, legally but not totally blind, and sighted subjects. Six totally blind, 12 legally blind and 30 sighted subjects were tested using the Embedded Figures Test (EFT). Findings were felt to support previous research that the blind children require significantly longer mean time to discover the embedded figure (using a tactile embedded figures task) than did sighted individuals. That the legally blind showed better differentiation than did the totally blind was also considered significant as it too was felt to support the assertion of primacy of vision for differentiation. The failure of the tactile embedded figures task to correlate with Witkin's EFT was noted, and the conclusion was drawn that interpretation within Witkin's differentiation theory did not seem particularly valid. (CD)

#### ABSTRACT 32863

EC 03 2863 ED N.A.  
Publ. Date Jul 71 23p.

Apple, Loyal E.; May, Marianne  
**Distance Vision and Perceptual Training: A Concept for Use in the Mobility Training of Low Vision Clients.**

American Foundation for the Blind, New York, New York

EDRS not available

American Foundation for the Blind, 15 West 16th Street, New York, New York 10011 (\$2.25).

Descriptors: exceptional child research; visually handicapped; partially sighted; visually handicapped mobility; program development; visual perception; optometrists; annotated bibliographies; sensory training

Designed for orientation and mobility specialists working with clients with residual vision and for researchers in perceptual psychology, optometry, ophthalmology, and education, the study focuses on development of mobility programs

for low-vision cases. Part 1 describes an incremental approach to mobility based on visual perception training of persons with low vision. The model program is divided into units dealing with the trainable, perceptual system's processes: fixation of distant objects; pursuit involving movement of eyes, head, and body; accommodative accuracy and accommodative facility; adaption; visual perception and visual recognition of form; visual recall of form; visual perception of space and direction; visual monitoring of body movement; and ability to process information from a wide area in minimal time. Part 2 suggests a detailed approach to assessment of low-vision perception as it relates to behavior and performance. Various aspects of the approach include: ophthalmological data; subjective examinations; near, functional vision work-up; visual manual tasks; and distant, functional vision work-up. Extensive references append parts 1 and 2. Part 3 provides an annotated bibliography, dating from World War II research, for development of mobility programs for low-vision persons. Six headings designate reference areas: environmental visibility factors; perceptual systems; optics; psycho-social; training; and general reference. Entries range from four to 30 per heading. (CB)

#### ABSTRACT 40053

EC 04 0053 ED N.A.  
Publ. Date Oct 71 2p.  
Oseroff, Andrew; Birch, Jack W.

**Clearinghouse: Relationships of Socioeconomic Background and School Performance of Partially Seeing Children.**

EDRS not available

Exceptional Children; V38 N2 P158-9 Oct 1971

Descriptors: exceptional child research; partially sighted; visually handicapped; academic achievement; socioeconomic influences

Academic achievement and economic background of 29 intermediate grade children enrolled in special educational programs for the partially seeing were studied. The educational variables studied were age-grade status, academic achievement, intelligence quotient, behavioral adjustment in school, mobility skill, and vocational aspirations. Results indicated that socioeconomic status was significantly related to both age-grade status and academic achievement at the 5% level of confidence. (CB)

#### ABSTRACT 40154

EC 04 0154 ED 055 390  
Publ. Date 71 13p.  
Whitcraft, Carol

**Gross Motor Engrams: An Important Spatial Learning Modality for Pre-school Visually Handicapped Children.**

Texas University, Austin, Department of Special Education

Bureau of Education for the Handicapped (DHEW/OE), Washington, D. C.

EDRS mf, hc  
OEG-0-9-531306-(031)

Descriptors: exceptional child research; visually handicapped; space orientation; perceptual motor learning; motor development; neurology; research reviews (publications); visually handicapped orientation; perceptual development

Investigations and theories concerning interrelationships of motoric experiences, perceptual-motor skills, and learning are reviewed, with emphasis on early engramming of form and space concepts. Covered are studies on haptic perception of form, the matching of perceptual data and motor information, Kephart's perceptual-motor theory, and supporting data for this theory from physiological investigations. Such supporting data includes research on the concept of motor engrams, defined in physiological terms as a structural change in the nervous system effected by an experience. For visually handicapped children, the concept of motoric engrams is seen as an essential learning modality for motor orientation and spatial perception. Four motor generalizations significant in the education of blind children are delineated: balance and posture, contact, locomotion, and receipt and propulsion. Concluded is the importance of establishing spatial orientation intrinsically through gross motor movements in early childhood (gross motor engramming as a learning modality for interacting with one's environment). All children are seen to need gross motoric engrams as foundations for spatial-perceptual development, with the blind urgently needing motoric environmental interaction as a readiness base for mobility. (KW)

#### ABSTRACT 40158

EC 04 0158 ED N.A.  
Publ. Date Oct 71 6p.  
Brothers, Roy J.

**Aural Study Systems for the Visually Handicapped: Effects of Message Length.**

EDRS not available

Education of the Visually Handicapped; V3 N3 P65-70 Oct 1971

Descriptors: exceptional child research; visually handicapped; aural stimuli; listening comprehension

A study was conducted to specify experimental conditions which would demonstrate differential effects of message length upon immediate and delayed recall of an aural message. Forty high school blind students (braille and large type readers) listened to a 24-minute stimulus message and were tested immediately on the message, followed by a second test 72 hours later. Results indicated that segmenting stimulus material in varied message lengths did not significantly affect comprehension or recall scores when subjects had equal time to complete the material. Immediate test scores were higher than delayed test scores, but no evidence was found that message length condition had any differential effects on comprehension for short or long delays. Under delayed conditions, braille readers scored higher than large type readers. (CB)

**ABSTRACT 40159**

EC 04 0159 ED N.A.  
 Publ. Date Oct 71 4p.  
 Simpkins, Katherine

**An Auditory Training Program for Kindergarten Through Third Grade.**

EDRS not available  
 Education of the Visually Handicapped; V3 N3 P70-3 Oct 1971

Descriptors: exceptional child research; visually handicapped; auditory training; auditory perception; primary grades

To determine if auditory perception could be trained in blind children, a curriculum guide was developed and used with kindergarten and primary grade blind children for two 15-minute periods a day for 6 weeks. Training consisted of identifying familiar environmental sounds and using auditory memory to repeat a story heard earlier. Pretest and posttest results were obtained from a tape recording instrument devised by the school. Results indicated that environmental sounds showed significant change, while language approached significance only when repetition of a story based on auditory memory was deleted from findings. (CB)

**ABSTRACT 40163**

EC 04 0163 ED N.A.  
 Publ. Date Oct 71 4p.  
 Harper, Florine Watson

**Recognition of Functional Hearing Loss by a Speech Therapist in a Residential School for the Blind.**

EDRS not available  
 Education of the Visually Handicapped; V3 N3 P87-90 Oct 1971

Descriptors: exceptional child research; visually handicapped; hearing loss; identification; testing problems; research reviews (publications); clinical diagnosis; speech therapists; aurally handicapped

Discussed is the difficulty of identifying non-organic or functional hearing loss for a speech therapist in a residential school for the blind. The author reviews studies to explain possible causes for difficulty of identifying functional hearing losses, which are said to occur frequently in blind children. Testing problems and related subjects covered are deprivation of sound in infants, failure of neglected children to respond to hearing tests at first, incidence of multiple handicaps, testing environment, and audiograms. Due to diagnostic problems, the author advocates that diagnosis of hearing problems be based on case history, otological findings, observations of patient behavior, and results of routine audiological testings. (CB)

**ABSTRACT 40233**

EC 04 0233 ED N.A.  
 Publ. Date Nov 71 6p.  
 Myers, William A.

**Color Discriminability for Partially Seeing Children.**

EDRS not available  
 Exceptional Children; V38 N3 P223-8 Nov 1971

Descriptors: exceptional child research; visually handicapped; partially sighted; color; visual acuity; visual perception

The study proposed to answer the following questions: Do partially seeing children see the Snellen E, printed in selected colored inks on various colored backgrounds, at different distances in terms of initial recognition and best focus? Thirty myopic children were tested in Los Angeles County District. Forty-two stimulus color combination cards were randomly presented out of focus. The subject was to report the figure's directionality and tell at what distance best focus was obtained. Different combinations yielded various discriminabilities. (Author)

**ABSTRACT 40257**

EC 04 0257 ED N.A.  
 Publ. Date 71 43p.  
 Meighan, Thomas

**An Investigation of the Self Concept of Blind and Visually Handicapped Adolescents.**

American Foundation for the Blind, New York, New York  
 EDRS not available  
 American Foundation for the Blind, 15 West 16th Street, New York, New York 10011 (\$2.50).

Descriptors: exceptional child research; visually handicapped; adolescents; self concept; academic achievement; personality assessment

To investigate the influence of visual handicap on personality, specifically the self concept, 203 visually handicapped adolescents were given the Tennessee Self Concept Scale (TSCS). The t test was used to determine any significant differences between the self concept profiles of Ss and those of the TSCS normative scores, and between the self concept profiles of demographic subgroups within the sample determined by race, sex, and degree of disability, and the TSCS normative scores. Relationship between the self concept total positive score and academic achievement was investigated by correlating TSCS scores with scores on the Stanford Achievement in Paragraph Reading and Language Ability. Results showed the visually handicapped adolescents to be a very deviant and homogeneous group, whose scores on the basic dimensions of self concept were all found to be in a negative direction. Ss were significantly different from normative group scores in every area except variability of answers. Each demographic subgroup was also significantly different from the norm group but not from each other. Lowest dimensions of self concept were identity, physical self, and moral-ethical self. Least negative score was on self satisfaction. No significant relationship was found between self concept and academic achievement. It was concluded that blindness does have a significant influence on visually handicapped adolescents' self concepts but that their self concepts and academic achievement are not correlated. (KW)

**ABSTRACT 40605**

EC 04 0605 ED N.A.  
 Publ. Date Dec 71 9p.  
 Sykes, Kim C.

**A Comparison of the Effectiveness of Standard Print and Large Print in Facilitating the Reading Skills of Visually Impaired Students.**

EDRS not available  
 Education of the Visually Handicapped; V3 N4 P97-105 Dec 1971

Descriptors: exceptional child research; visually handicapped; partially sighted; large type materials; reading ability; reading comprehension; reading speed; secondary school students

The study investigated whether standard print is equally or more effective than large print in determining reading ability of the visually impaired. Subjects were 41 students in grades 8 through 12 at a school for the blind; 24 were legally blind and 17 were partially sighted. Visual acuities ranged from 20/60 to 20/900. All were capable of reading print. Appropriate corrective lenses were prescribed when Forms 2A and 2B for grades 8, 9, 10, and 11 of Series 2 of the Davis Reading Test were administered to subjects in both standard print (10-point type) and large print (18-point type) at different times and in alternate order. Comprehension and reading speed scores were obtained. Results showed no relationship between visual acuity and comprehension; that students with higher acuities read faster than those with lower acuities; and that students with acuities above 20/200 progressively experienced less visual fatigue on large print than on standard print. It was suggested that this last finding might be due to the partially sighted students' greater familiarity with large print. It was concluded that under optimum reading conditions, both legally blind and visually impaired high school students perform as well in standard print as in large print on measures of comprehension and reading speed. (KW)

**ABSTRACT 40661**

EC 04 0661 ED N.A.  
 Publ. Date Dec 71 6p.  
 Bidgood, Frederick E.

**A Study of Sex Education Programs for Visually Handicapped Persons.**

EDRS not available  
 New Outlook for the Blind; V65 N10 P318-23 Dec 1971

Descriptors: exceptional child research; visually handicapped; national surveys; sex education; educational programs; public schools; residential schools; agencies

A National survey of existing educational programs in sex education available to visually handicapped persons was conducted. Populations studied were public schools, residential schools for the blind, and multi-service agencies meeting the special needs of the visually handicapped. The response rate was 43.2% out of 273 institutions and organizations contacted. Results indicated that the majority of public and residential schools



felt a responsibility to provide sex education for visually handicapped persons, with multi-service agencies asserting the same responsibility to a lesser extent. The majority offered some kind of sex education program, which was integrated frequently into existing, on-going educational and counseling services. Sex education programs ranged from kindergarten to senior high school levels. On the whole, public school programs were more thorough and better planned than those of agencies or residential schools. Progress in sex education was thought to be blocked by lack of good audio and tactile teaching instructional materials. The majority of respondents were willing to participate in the production of a resource guide as a stimulus to development of programs and materials in sex education for visually handicapped persons. (CB)

#### ABSTRACT 40665

EC 04 0665 ED N.A.  
Publ. Date Dec 71 4p.  
Kuhn, Judith  
**A Comparison of Teachers' Attitudes Toward Blindness and Exposure to Blind Children.**  
EDRS not available  
New Outlook for the Blind; V65 N10 P337-40 Dec 1971

Descriptors: exceptional child research; visually handicapped; teacher attitudes; elementary education

The study sought to determine whether regular elementary school teachers working in a school with a resource room for blind children would indicate more positive attitudes toward blindness as measured by the Attitudes to Blindness Scale than would teachers not having exposure to blind children. Results indicated that the two groups of teachers did not differ significantly in their attitudes to blind children. (CB)

#### ABSTRACT 40719

EC 04 0719 ED N.A.  
Publ. Date Jan 72 3p.  
Marsh, Velma; Friedman, Robert  
**Changing Public Attitudes Toward Blindness.**  
EDRS not available  
Exceptional Children; V38 N5 P426-8 Jan 1972

Descriptors: exceptional child research; visually handicapped; student attitudes; changing attitudes; secondary school students; educational programs

To modify stereotypic attitudes toward blindness in a high school, a vision education program lasting five instructional periods was taught in coeducational freshman health education classes. Purpose was to promote the integration of blind students into the school's social and educational life by eliminating the mystery surrounding blindness and the school's resource program for blind students. Three concepts were stressed: the blind can travel independently; special equipment assists blind students to profit from the same educational experiences as their peers; and the blind are normal people who wish to be treated as such. A

scale on attitudes toward blindness, administered before and after the program, showed a decrease in percentage of responses judged incorrect. Administrators, teachers, and sighted students responded positively to the program. The blind students reportedly noted a difference in the attitudes of the sighted students toward them. (KW)

#### ABSTRACT 40754

EC 04 0754 ED N.A.  
Publ. Date Dec 71 4p.  
Franks, Frank L.; Baird, Richard M.  
**Geographical Concepts and the Visually Handicapped.**  
EDRS not available  
Exceptional Children; V38 N4 P321-4 Dec 1971

Descriptors: exceptional child research; visually handicapped; instructional materials; geography; map skills; material development

The study investigated geographical concept attainment in visually handicapped students with the goal of improving their map reading skills. A series of eight, three dimensional raised surface landforms were used to test 48 visually handicapped students from grades six, eight, and 10 in two residential schools. Chromatic coding and tactile coding were used to facilitate landform discrimination. Testing results were an overall 83.5% correct identification of landforms and suggested that use of the instructional materials was successful. (CB)

#### ABSTRACT 40840

EC 04 0840 ED N.A.  
Publ. Date Jan 72 9p.  
Demott, Richard M.  
**Verbalism and Affective Meaning for Blind, Severely Visually Impaired, and Normally Sighted Children.**  
EDRS not available  
New Outlook for the Blind; V66 N1 P1-8 25 Jan 1972

Descriptors: exceptional child research; visually handicapped; vocabulary; language research; language ability; language tests

The language research study was designed to compare first, the meanings of concrete words having visual connotations and second, the groupings or clusters of adjective scales resulting from factor analysis as they were used by 143 blind, partially sighted, and normal children in elementary, junior high, and senior high school. A collection of 39 objects and a vocabulary list containing the names of the objects were used to determine the subjects' language abilities to define common objects. A five-point semantic differential scale and 15 pairs of adjectives, of which four were abstract concepts, were used to obtain a measure of the subjects' understanding of meaning. Three different statistical procedures were used to ascertain group differences in response to concrete and abstract concepts varying in their visual components. Results indicated that the degree of vision influenced the tendency toward extreme responses, but that it did not affect significantly the meanings given to

concepts. It was concluded that there appeared to be no significant differences in the meaning of general concepts as a function of visual experience; rather, meanings appeared to derive from within the context and use of the language. (CB)

#### ABSTRACT 41394

EC 04 1394 ED N.A.  
Publ. Date Mar 72 6p.  
Jones, Reginald L. and Others  
**Blind Children Integrated in Classrooms with Sighted Children: A Sociometric Study.**  
EDRS not available  
New Outlook for the Blind; V66 N3 P75-80 Mar 1972

Descriptors: exceptional child research; blind; elementary school children; peer relationship; regular class placement; visually handicapped; social attitudes

Peer relationships and acceptance of elementary blind students by their sighted peers in social, academic, and physical activities were studied. Subjects were 20 blind children, 477 sighted children, and their respective teachers in grades four through six in six Ohio school districts. The blind children used braille and were integrated in a regular classroom for at least half the school day. A sociometric questionnaire designed for the study asked the participants to name three choices for 10 situations reflecting social attitudes such as eating lunch with someone and choosing someone as class representative. Results indicated that blind children tended to fall below the median on a majority of items. It was also found that those sighted children listing the blind children among their first three choices were themselves below median in acceptance. (CB)

#### ABSTRACT 41429

EC 04 1429 ED N.A.  
Publ. Date Mar 72 8p.  
Brothers, Roy J.  
**Arithmetic Computation by the Blind.**  
EDRS not available  
Education of the Visually Handicapped; V4 N1 P1-8 Mar 1972

Descriptors: exceptional child research; visually handicapped; mathematics; academic achievement; braille

Studied were current academic achievements of students using braille in arithmetic computation, achievement scores of blind students using braille on the Stanford Achievement Test (SAT) of arithmetic computation for 1959 and 1970, and possible relationships of SAT scores with either computational device or strategy used by the blind student. Test scores of over 200 students in grades three, four, six, and eight were used for each year. Results indicated that academic achievement in mathematics for blind students has not improved during the 1960's. It was found that the 1959 students achieved approximately 15% below the sighted norm, while the 1970 students scored 27% below the norm. Students using the abacus were found to be best able to increase their computational speed. (CB)

**ABSTRACT 41431**

EC 04 1431 ED N.A.  
 Publ. Date Mar 72 4p.  
 Tait, Perla

**A Descriptive Analysis of the Play of Young Blind Children.**

EDRS not available  
 Education of the Visually Handicapped:  
 V4 N1 P12-5 Mar 1972

Descriptors: exceptional child research; visually handicapped; play therapy; elementary school students; spatial relationship

The play of 29 blind children, ranging from 4 to 9 years old, was compared with the play of peer seeing children. Both groups of children were introduced to the play materials, a cardboard box, a wooden dowel, a yard of cloth, and an ordinary hat. The play sessions were conducted in a small parlor room. Excerpts of the blind children's conversation while playing suggested that the children had difficulty in understanding the spatial relationship of the parlor room and of the play materials. It was thought that the blind children's difficulty of comprehending space and boundary would adversely affect their later mobility training. (CB)

**ABSTRACT 41443**

EC 04 1443 ED N.A.  
 Publ. Date Apr 72 4p.  
 Echon, Lester H.

**The Relationship Between Intelligence and the Mastery of Mobility Skills Among Blind Persons.**

EDRS not available  
 New Outlook for the Blind: V66 N4 P115-8 Apr 1972

Descriptors: exceptional child research; visually handicapped; visually handicapped mobility; intelligence level; research reviews (publications); adults

A short review was made of research that investigated the relationship between intelligence levels and the mastery of mobility skills among blind persons of various ages. In general, the findings indicated that intelligence was a factor in the rate of acquisition of mobility skills, but not in the ability to acquire mobility skills. Results were cited that showed a mentally retarded and visually handicapped person could learn mobility skills with practice. (CB)

**ABSTRACT 41831**

EC 04 1831 ED N.A.  
 Publ. Date May 72 5p.  
 Tuttle, Dean W.

**A Comparison of Three Reading Media for the Blind: Braille, Normal Recording, and Compressed Speech.**

EDRS not available  
 Education of the Visually Handicapped:  
 V4 N2 P40-4 May 1972

Descriptors: exceptional child research; visually handicapped; reading comprehension; reading speed; speech compression; reading materials; braille

Reading comprehension and speed were studied in 104 visually handicapped students, who were given a reading test in braille, by listening to normal recording,

and by listening to compressed speech. Results indicated that there was no difference in comprehension among the three reading materials. It was also found that reading by braille took approximately twice as long as reading by listening to normal recording and approximately three times as long as listening to compressed speech.

**ABSTRACT 41832**

EC 04 1832 ED N.A.  
 Publ. Date May 72 8p.  
 Mayadas, Nazneen S.

**Role Exceptions and Performance of Blind Children: Practice and Implications.**

EDRS not available  
 Education of the Visually Handicapped:  
 V4 N2 P45-52 May 1972

Descriptors: exceptional child research; visually handicapped; role perception; expectation; adolescents

Reported were the results and implications of a study that investigated the role perception and performance of 56 blind adolescents when compared with four categories of expectations: significant other expectations (parents, houseparents, teachers, and counselors), blind child's perception of significant other expectations, blind child's self-expectations, and expectations of persons who are strangers relatively unfamiliar with blindness. Results indicated that role synchrony (compatible role performance and expectation) existed among blind adolescents' performance, expectations of significant others, subject's perception subject's self-expectations. Role asynchrony (incompatible role performance and expectation) was found between expectations of persons relatively unfamiliar with blind persons and the role performance of blind subjects. It was concluded that role expectations could be a significant partial predictor performance and that the blind role was dependent upon sighted environmental demands. (CB)

**ABSTRACT 41834**

EC 04 1834 ED N.A.  
 Publ. Date May 72 6p.  
 Apple, Marianne May

**Kinesic Training for the Blind: A Program.**

EDRS not available  
 Education of the Visually Handicapped:  
 V4 N2 P55-60 May 1972

Descriptors: exceptional child research; visually handicapped; nonverbal learning; communication skills; adolescents

Seven congenitally blind adolescents (age range 14 to 20 years) participated in a 6-week, nonverbal communication skills program which sought to acquaint the subjects with facial expressions and gestures common to daily sighted life and to teach appropriate use of the expressions and gestures. The kinesic program involved work on posture when seated or standing, commonly used gestures such as negative response head shake, six basic facial expressions, and development of sensory awareness. Evaluation consisted of two 45-minute group discussions,

Results indicated that nonverbal communication was lowest in the training group, but it was thought that the subjects were overly self-conscious of their recent training and did not fully demonstrate their recent nonverbal learning.

**ABSTRACT 41933**

EC 04 1933 ED 062 736  
 Publ. Date 72 91p

**Exceptional Children Conference Papers: Problems of Auditory, Visual, and Speech Impairments.**

Council for Exceptional Children, Arlington, Virginia  
 Bureau of Education for the Handicapped (DHEW/OE), Washington, D. C.

EDRS mf.hc

Papers Presented at the Annual International CEC Convention (50th, Washington, D. C., March 19-24, 1972).

Descriptors: exceptional child research; handicapped children; aurally handicapped; visually handicapped; language development; stuttering; nonstandard dialects; auditory perception; sequential learning; sensory integration; conference reports

The collection of eight conference papers on problems of auditory, visual, and speech handicaps begins with a review of what is known about deaf-blind children and early development. Following papers are devoted to spontaneous vocalization and babbling in aurally handicapped infants, psychological synergism (an approach to consideration of problems of the hearing handicapped retarded), prediction of recovery from stuttering, and print reading for visually impaired children. The final three papers report studies investigating auditory discrimination performance as a function of nonstandard dialect, visual sequential memory in good and poor readers, and auditory-visual integration. (KW)

**ABSTRACT 42076**

EC 04 2076 ED N.A.  
 Publ. Date Jun 72 9p.  
 Umsted, Richard G.

**Improving Braille Reading.**

EDRS not available  
 New Outlook for the Blind: V66 N6 P169-77 Jun 1972

Descriptors: exceptional child research; visually handicapped; secondary school students; braille; reading skills; reading speed; reading comprehension; reading tests

Seventy-two high school students from three state residential schools for the blind in the midwest participated in an experiment to determine the effect of instruction for increasing speed and accuracy of recognition of the one-cell whole word and part-word signs, the two-cell contractions, and short-form words in English Braille on braille reading skills. Two forms of the Oral Reading Test developed by the investigator, averaging 705 words in length, were used. Six criterion measures were established to evaluate the effect of a 15-day training program. Criteria were gain in silent reading speed on silent reading



test, gain in accuracy on comprehension test of silent reading test, gain in oral reading speed on both an individually administered oral reading test and on the braille code recognition test, and gain in accuracy on braille code recognition test. Pretest and posttest results indicated that the experimental group increased its silent reading speed by 30% or 29 words per minute with only a minimal loss in comprehension scores, which was thought to be the most significant finding of the study. Statistically significant differences were also found on posttests in favor of the experimental group over the control group in increased accuracy and speed on the braille code recognition test. Concluding comments focused on the potential improvement in reading skills of high school braille readers by participation in a short course on braille code recognition. (CB)

#### ABSTRACT 42245

EC 04 2245 ED N.A.  
 Publ. Date 71 43p.  
 Meighan, Thomas  
**An Investigation of the Self Concept of Blind and Visually Handicapped Adolescents.**  
 American Foundation for the Blind, New York, New York  
 EDRS not available  
 American Foundation for the Blind, 15 West 16th Street, New York, New York 10011 (\$2.50).

Descriptors: exceptional child research; visually handicapped; adolescents; self concept; social development; psychological tests; personality tests; psychological evaluation; test interpretation; statistical data; doctoral theses

The Tennessee Self Concept Scale was administered to 203 blind and partially seeing adolescents to discover the self concept profile of common personality problems and their effect on academic achievement. Subjects were from both urban and rural areas of Maryland, Pennsylvania and New York. Analysis of data showed a definite negative direction of the basic dimensions of self concept measured by the test which included self criticism, identity, self satisfaction, behavior, physical self, moral ethical self, personal self, family self and social self. The dimensions shown to be lowest were identity, physical self, and moral-ethical self. The least negative score was found to be self satisfaction. No significant difference of self concepts among demographic subgroups was found nor was any significant correlation between self concepts of visually handicapped and their academic achievement discovered. Test results and standard deviations were presented in twelve tables. (L1)

#### ABSTRACT 42355

EC 04 2355 ED N.A.  
 Publ. Date 72 5p.  
 Grumpelt, Howard R.; Rubin, Ellen  
**Speed Listening Skill by the Blind as a Function of Training.**  
 EDRS not available  
 Journal of Educational Research; V65 N10 P467-71 Jul-Aug 1972

Descriptors: exceptional child research; visually handicapped; listening comprehension; speech compression; secondary school students

To determine whether the blind can profit from training in speed listening (increased listening rate) 66 blind high school students were divided into matched experimental (E) and control (C) groups. Tape recorded material was speeded up using the pitch altering method of speech compression. Training was given the E group at 275 and 300 words per minute (wpm); C group received similar training at the standard 175 wpm. E group did significantly better in comprehension on the posttest administered at 300 wpm. Although a clear-cut training effect was obtained, degree of improvement in comprehension due to the training was not large. (Author/KW)

#### ABSTRACT 42875

EC 04 2875 ED 066 849  
 Publ. Date Jun 72 55p.  
**Eye Examination Findings Among Children, United States.**  
 Health Services and Mental Health Administration, National Center for Health Statistics, Rockville, Md.  
 Public Health Service (DHEW) Washington, D. C.  
 EDRS mf.hc  
 Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402 (\$5.00).

Descriptors: exceptional child research; visually handicapped; visual perception; childhood; national surveys; vision; statistical data; vision tests; visual acuity; demography

Reported were extensive statistical data on the prevalence of abnormal eye conditions found on examination, heterophoria test results, and history of eye problems as well as extent of interrelationship of the eye examination and vision test findings among children aged 6 to 11 years in the United States, based on findings from the Health Examination Survey of 1963-1965. A total of 7,119 children were examined and were thought to be closely representative of the population from which they were drawn with respect to age, sex, race, region, and other demographic and socioeconomic variables. Selected major findings included: that nearly one-tenth of the children were found to have a disease condition or other abnormality in one or both eyes, that strabismus was the eye condition most frequently found, that two out of five children were found to have some marked degree of eye muscle imbalance, that significant deviations in the position of the binocular image at distance were likely to be ones of convergence or downward, that the prevalence of defective color vision was higher among children with defective than among those with normal visual acuity, and that the most frequent eye problems reported by parents for the children were those such as visual acuity defects and symptoms of burning or itching around the eye. (CB)

#### ABSTRACT 42927

EC 04 2927 ED N.A.  
 Publ. Date Spr 72 6p.  
 Haskell, Simon H.  
**Visuoperceptual, Visuomotor, and Scholastic Skills of Alternating and Unocular Squinting Children.**  
 EDRS not available  
 Journal of Special Education; V6 N1 P3-8 Spr 1972

Descriptors: exceptional child research; visually handicapped; visual perception; academic achievement; perceptual motor coordination; vision; childhood; testing

In order to investigate visuoperceptual, visuomotor, and scholastic skills of alternative and unocular squinting children, 28 children ranging in age from 7 to 11 years were selected from routine referrals to a large eye hospital and were administered psychological, educational, and motor development tests. All tests were administered individually except for the Frostig Developmental Test of Visual Perception and the Young test on the intellect. Results showed that there were no significant differences between the mean scores of the alternating and the unocular squinters on any of the variables. The outstanding handicap of all the children was thought to be one visuomotor incoordination. There was no evidence that the children's visuomotor disorder had been a handicap to their educational attainments, nor were there reliable differences between the groups in perceptuomotor and scholastic skills.

#### ABSTRACT 42978

EC 04 2978 ED 066 856  
 Publ. Date (70) 12p.  
 Kane, Terry J.; Rawls, Horace D.  
**Use of a Self-Anchoring Technique in Assessing Self-Conceptions of Visually Impaired Persons.**  
 EDRS mf.hc

Descriptors: exceptional child research; visually handicapped; self concept; rating scales; self evaluation; age differences

The Cantril-Kilpatrick Self-Anchoring Technique (1960) was used to assess self concepts of visually impaired persons by performing a numerical evaluation of visually impaired persons' self ratings and a content analysis specifying dimensions used by the individuals in rating themselves. A total of 577 persons participated. Results showed that the majority of clients placed themselves at the middle of the scale. It was also found that the noncongenital group consistently rated themselves higher at the positive end of the scale. Younger clients were reported to have better self concepts than those individuals 30 years of age between clients interviewed in the field and those in the clinic, comparisons between races, age categories, sexes, degrees of residual vision, age at onset of visual impairment, the length of impairment, and education categories; some emphasis was placed on rural distinctions. (CB)

**ABSTRACT 42992**

EC 04 2992 ED N.A.  
 Publ. Date Oct 72 4p.  
 Parrish, John L.; Chassen, Larry R.  
**Variables in Tactual Perception.**  
 EDRS not available  
 Education of the Visually Handicapped;  
 V4 N3 P76-9 Oct 1972

Descriptors: exceptional child research; visually handicapped; research reviews (publications); tactual perception

A brief review of selected research on tactual perception was reported to reveal a lack of theoretical perspective, definition problems, and emphasis on applied research. Much research was found to focus on notion of simple sensations or simple impression. Other research was found to show that chronological age, sex, and grade placement had no major effect on a student's ability to distinguish certain tactual patterns. Additional research cited involved use of histograms varying in level of difficulty, performance of good and poor braille readers, recognition of tactual form by sighted and blind subjects, the Tactile-Kinaesthetic Form Discrimination Test, a proposed mode of experience called haptics, and feedback evaluation, respectively. Noted were research needs in cognitive development. (CB)

**ABSTRACT 42993**

EC 04 2993 ED N.A.  
 Publ. Date Oct 72 3p.  
 Bongers, Kay H.; Doudlah, Anna M.  
**Techniques for Initiating Visuomotor Behavior in Visually Impaired Retarded Children.**  
 EDRS not available  
 Education of the Visually Handicapped;  
 V4 N3 P80-2 Oct 1972

Descriptors: exceptional child research; visually handicapped; mentally handicapped; perceptual motor learning; teaching methods; multiply handicapped; visual perception; institutionalized (persons); lighting

Reported were observations, experiences, and solutions to the problem of initiating visuomotor behavior in visually impaired, institutionalized, retarded children. Two major principles cited in developing remediation strategies for problems relating to perceptual motor dysfunction in children were recapitulation of sequence of perceptual motor development and control of sensory input. Also noted was D.B. Harmon's work (1949) in environmental design. Techniques utilized light images, lamps, and light table. Conclusions were that attention to objects and tasks needs to precede development of visuomotor skills, restricted visual environments directing child's attention to task are effective in initiating purposeful performance, light is powerful reinforcer, and effectiveness of technique can be evaluated by monitoring appearance and spontaneous use of skill by child. (CB)

**ABSTRACT 42996**

EC 04 2996 ED N.A.  
 Publ. Date Oct 72 3p.  
 Huff, Roger

**Development of an Enlarged Abacus.**

EDRS not available  
 Education of the Visually Handicapped;  
 V4 N3 P88-90 Oct 1972

Descriptors: exceptional child research; visually handicapped; mathematics; instructional materials; equipment evaluation; abacus

Reported were the development and evaluation of an abacus one third larger than the Cranmer abacus for use in mathematics by visually handicapped students. The suggested target population using the enlarged abacus were young visually handicapped students, those visually handicapped students with additional handicaps, and adults experiencing manipulation and discrimination problems. Evaluation of the abacus indicated that the majority of teachers participating felt the enlarged abacus was a useful computational device. (CB)

**ABSTRACT 50003**

EC 05 0003 ED N.A.  
 Publ. Date Oct 72 5p.  
 Berla, Edward P.  
**Effects of Physical Size and Complexity on Tactual Discrimination of Blind Children.**  
 EDRS not available  
 Exceptional Children; V39 N2 P120-4 Oct 1972

Descriptors: exceptional child research; visually handicapped; primary grades; discrimination learning; tactual perception; elementary school students; physical characteristics

The effects of physical size and complexity of metric figures on tactual discrimination performance was investigated with 36 blind children in grades one and two. Metric figures from three levels of complexity (3 x 3, 4 x 4, and 5 x 5) were combined factorially with three physical sizes (1.2, and 4 inches) in a same-different pair-comparison discrimination task. Increasing levels of physical size and complexity had no effect on discrimination accuracy, but increasing levels of either physical size or complexity significantly increased task time. Overall accuracy of performance was low (62% correct discriminations), and it appeared that unsystematic and inappropriate hand and finger motions were responsible for the low level of performance. (Author)

**ABSTRACT 50083**

EC 05 0083 ED 067 800  
 Publ. Date (72) 21p.  
 Morin, Stephen F.; Jones, Reginald L.  
**Social Comparison of Ability in Blind Children and Adolescents.**  
 EDRS microfiche

Descriptors: exceptional child research; blind; social attitudes; age differences; self evaluation; visually handicapped; childhood; adolescence; self concept

Forty-five blind, school aged subjects (aged 6-18 years) were questioned to determine the influence of age on the choice of the blind as a reference group for social comparison behavior, each subject was presented with a replication of three questions (which differed in the

degree to which they implicated blindness as a relevant factor in reference group processes) previously asked of early-blinded adults, a questionnaire, and two performance tasks. On the replicated questions, the school aged subjects were significantly more likely to exhibit comparison behavior than the earlier reported adult sample and significantly more likely to choose the blind for comparison purposes on two items than early blinded adults. The younger group (6-11 years) within the school aged sample chose the blind significantly more than the older group (12-18 years) on three items. The authors discussed results in the light of Festinger's theory of social comparison processes. (GW)

**ABSTRACT 50192**

EC 05 0192 ED N.A.  
 Publ. Date Oct 72 7p.  
 Bentzen, Billie Louise  
**Production and Testing of an Orientation and Travel Map for Visually Handicapped Persons.**  
 EDRS not available  
 New Outlook for the Blind; V66 N8 P249-55 Oct 1972

Descriptors: exceptional child research; blind; mobility aids; map skills; tactual perception; visually handicapped; visually handicapped mobility

Tested was the hypothesis that a tactual map can facilitate independent travel by visually handicapped persons with good travel skills who are unfamiliar with the mapped area and who receive information about the area only from the map itself. Six subjects were given the names of three buildings which they were to find in order. No subject had difficulty in planning routes using the map although styles of use varied widely. All subjects succeeded in reaching all three objectives within the time allowed. Reasons given for subject preference for the map were that the map gave a better mental image of the route and surroundings and more information than verbal directions and that it could be referred to repeatedly. (GW)

**ABSTRACT 50194**

EC 05 0194 ED N.A.  
 Publ. Date Oct 72 10p.  
 Berla, Edward P.  
**Behavioral Strategies and Problems in Scanning and Interpreting Tactual Displays.**  
 EDRS not available  
 New Outlook for the Blind; V66 N8 P277-86 Oct 1972

Descriptors: exceptional child research; blind; map skills; tactual perception; skill analysis; visually handicapped

Telephone interviews were conducted with 12 experienced blind adults to determine the strategies and techniques they employed in locating points linear, and areal symbols and in following a track on a pseudo-map. Differences and possible advantages of the following variant scanning strategies were examined: one handed search, two handed search, horizontal scan, vertical scan, perimeter scan, bounded search, density distribution

scan, and spoke wheel scan. Hand and finger utilization were treated in terms of primary usage of index and middle fingers, usage of additional micromotions (up and down, circular), and distance between hands. Reported were procedures specific to identification of areal and point symbols and to tracking. Noted was the value of overall orientation provided by a swift initial scan and by directional clues on the map. Subjects suggested that map reading begin at the third grade or lower. Provided was a list of basic concepts and activities deemed necessary by the subjects including understanding the meaning of a symbol, discrimination of variant symbols and of bounded space, environmental representations, spatial relationships, and memory. All subjects agreed that tactual representation added to verbal description. (GW)

#### ABSTRACT 50272

EC 05 0272 ED 070 228  
Publ. Date 71 88p.

Nolan, Carson Y.; Morris, June E.  
**Improvement of Tactual Symbols for Blind Children. Final Report.**  
American Printing House for the Blind, Louisville, Ky.  
Bureau of Education for the Handicapped (DHEW/OE), Washington, D. C.

EDRS mf, hc  
OEG-32-27-0000-1012

Descriptors: exceptional child research; visually handicapped; tactual perception; map skills

The purpose of the project was to gain information with which to improve the quality of tactual maps for the blind. Empirical studies of the pair-comparison type were conducted, using blind students as subjects, to determine discriminable sets of areal, linear, and point symbols made in plastic and to identify discriminable sets of linear and point symbols embossed in paper. After such sets were identified, discriminable plastic symbols of the three types were combined in six pseudomaps which varied

through two conditions of spacing between symbols (.090 inch and .150 inch) and through three conditions of relief (all symbols the same height, linear and point symbols higher than areal symbols but the same height, and point symbols higher than linear symbols and linear symbols higher than areal symbols). The maps were used to study how to combine such symbols. Tactual map reading behavior was analyzed using one of the pseudomaps. It was found that tactual perception, symbol legibility, map design, and map user training were closely interrelated and all played critical roles in a blind person's ability to use tactual maps. (Author)

#### ABSTRACT 50393

EC 05 0393 ED 071 221  
Publ. Date Aug 72 41p.

#### Color Vision Deficiencies in Children. United States.

National Center for Health Statistics (DHEW), Rockville, Md.  
Department of Health, Education, and Welfare, Washington, D. C.  
EDRS mf, hc  
Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402 (Vital Health and Statistics Series 11-No. 118 80.45).

Descriptors: exceptional child research; visually handicapped; national surveys; statistical data; incidence; demography; elementary school students; color blindness

Presented are prevalence data on color vision deficiencies (color blindness) in noninstitutionalized children aged 6-11 years in the United States, as estimated from the Health Examination Survey findings on a representative sample of over 7,400 children. Described are the two color vision tests used in the survey, the Ishihara Test for Color Blindness and the American Optical Company's Hardy-Rand-Rittler Pseudoisochromatic Plates, as well as testing methods and quality control. Tables summarize prevalence rates for color vision deficiencies among children 6-11 years by age, race, sex,

family income, place of residence, and type of defect (red-green or yellow-blue deficiencies). Figures obtained are compared with data from other U.S. and European studies reporting prevalence of color vision deficiencies. (KW)

#### ABSTRACT 50430

EC 05 0430 ED N.A.  
Publ. Date Nov 72 3p.  
Hellinger, George O.; Berger, Arthur W.

#### The Optiscope Enlarger: A Report of Initial Field Trials.

EDRS not available  
New Outlook for the Blind, V66 N9  
P320-2 Nov 1972

Descriptors: exceptional child research; visually handicapped; sensory aids; reading ability; media technology; optiscope enlarger

Thirty randomly selected, low vision patients were evaluated on their performance in viewing a standard near-point chart and selected materials without any vision aids, then with their customary low vision aid handheld, and finally, with their customary low vision aid viewed in an optiscope enlarger. The optiscope enlarger was an opaque projection device having variable illumination and adjustable focus. All subjects demonstrated an ability to read smaller point chart type and to do so at a greater distance with the optiscope enlarger. Varied responses on the selected materials were thought to be attributable to word reading difficulties or the effect of causative defects. Subjects gave 18 favorable, five questionable, and seven negative responses to use of the optiscope enlarger. Use of the optiscope enlarger was said to permit simultaneous viewing by parent and child at home, reading at more normal distances, greater word and phrase span, and the viewing of technical diagrams. (GW)

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No waiver, alteration, or modification of any of the provisions hereof shall be binding unless in writing and signed by an officer of LIPCO.

### 9. DEFAULT AND WAIVER

a. If Customer fails with respect to this or any other agreement with LIPCO to pay any invoice when due or to accept any shipment as ordered, LIPCO may without prejudice to other remedies defer any further shipments until the default is corrected, or cancel this Purchase Order.

b. No course of conduct nor any delay of LIPCO in exercising any right hereunder shall waive any rights of LIPCO or modify this Agreement.

### 10. GOVERNING LAW

This Agreement shall be construed to be between merchants. Any question concerning its validity, construction, or performance shall be governed by the laws of the State of New York.